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ABSTRACT

This manual describes a classification system for classifying and recording client problems requiring nursing intervention and offers a plan for its implementation. Part 1 discusses the development of the method, described as an orderly arrangement of a nonexhaustive list of client problems diagnosed by nurses. Problems are divided into four domains (environmental, psychosocial, physiological, and health behaviors) and further identified by modifiers of the problems and signs or symptoms of problems. Contents include background, advantages, design and testing, description, classification scheme, classification scheme in perspective, computer application, coded classification scheme, and computer-based system design. Part 2 presents materials on implementation of the scheme. It discusses the two processes in preparing for implementation: planning and instruction. Information for the coordinator/instructor is then provided--a description of course content; discussion of use of the classification scheme with examples of problem labels, modifiers, and signs or symptoms; instructions for preparing the problem list and for completing the problem list form; and practice examples. Appendices, amounting to approximately one-third of the manual, include a user's guide outline, definition of terms, test program report, literature review, and selected bibliography. (YLB)

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A Classification Scheme for Client Problems in Community Health Nursing

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Visiting Nurse Association of Omaha
Omaha, Nebraska

June 1980

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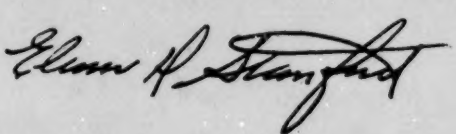
FOREWORD

Community health agencies in recent years have experienced a growing need for a uniform method for documenting client needs and the services provided to meet those needs. This is attributable to an expanded scope of services provided by the agencies, as well as to other factors requiring increased documentation such as professional reviews and reimbursement practices. In 1977 the Division of Nursing entered into a contract with the Visiting Nurses Association of Omaha to support research to develop an effective system for classifying and recording client problems requiring nursing intervention. This publication describes the classification system that was devised and tested, and offers a plan for its implementation.

The classification scheme provides a uniform nomenclature for identifying client problems. It facilitates more precise assessments of family problems, more effective planning for the solution of the problems, and increased effectiveness of recording of problems by the staff. It enables agency directors to review, develop, and revise programs systematically and to distribute resources according to the health needs of clients. The scheme also holds promise of computerization of nursing records to include problem listing, intervention measures, and planned and actual outcomes. Such data could be entered into the agency's ongoing information system for study in relation to costs of services, specific community problems, and planning and programming functions.

This major research effort in classification methodology will greatly facilitate the delivery of effective community health care services in agencies throughout the Nation.



Elinor D. Stanford
Acting Director
Division of Nursing

PREFACE

During the past decade, community health nursing has both expanded the scope of its services and refined the skills of the traditional roles. Because of this fact, community health nursing agencies have also been enveloped in the ever-increasing documentation that has been necessitated by third-party payers, professional audits, and complexities of family and client problems. It thus became evident that a method of documentation that was uniform, precise, and accepted by the profession must be developed and implemented.

The Problem-Oriented Medical Record, by Lawrence Weed, M.D., provided an important stepping stone. In 1972, the Visiting Nurse Association of Omaha began using a problem-oriented method of recording for the services provided by the combination agency. The move was initiated and fostered by creative supervisors and staff who acknowledged the value of complete, timely, and accurate recording, but who had also experienced the difficulties in such recording. A committee of the staff began developing a record system that would best suit their needs and initiated the first of a series of revisions that would eventually become a Family Problem-Oriented Record for community health nursing.

Concomitantly, I served on the Record Committee of the Council of Home Health Agencies and Community Health Services, National League for Nursing, whose task was to develop a sample record system for community health agencies. Through the process of working with these two groups, the staff of the Visiting Nurse Association of Omaha became acutely aware of the lack of a standard classification of the problems which community health nurses address and, subsequently, committed themselves to the goal of developing such a classification.

The development, testing, and refinement of this classification scheme has been in process since 1975. The dedication and effort of all who participated was well rewarded. Use of the classification scheme opens the door to further advances in specificity of nursing documentation and nursing research.

DeLanne A. Simmons

ACKNOWLEDGMENTS

While it is impossible to express appreciation to all of the people who, by their participation and cooperation, contributed to the success of this project, I wish to acknowledge those persons who made the project possible. The highly competent staff of the Visiting Nurse Association of Omaha practice community health nursing with a degree of professionalism, skill, and commitment second to none. Their cooperation and enthusiastic response to all phases of the project made it possible to achieve the goals.

A similar commitment was demonstrated by the excellent staff at each of the three test agencies: The Public Health Nursing Association of Des Moines, Iowa, the Division of Public Health Nursing of the State of Delaware Department of Health and Social Services, and the Dallas Visiting Nurse Association. Through their efforts, the usefulness of the classification in diverse settings has been assured.

The Advisory Committee laid the foundation for the development of the project and provided the necessary stimulus for its implementation. Their counsel and advice warrants special appreciation. The Committee included: Felice Armigracco, Mother M. Consilia Buka, Joan E. Caserta, R. K. Dieter Haussmann, Marion Highriter, Patricia A. Kelly, Alice Kruszon, Cheryl Muck, Dorothea Orem, Rose Marie Serra, Lillian Wagner, Una Beth Westfall, Lois Young.

Particular recognition is given Marjorie J. Corrigan, Consultant, who provided the project staff with ideas, references, and criticisms, as well as conceptual leadership.

Information Management Services, Inc. was responsible for field test design and statistical analysis of the test results. W. Lake, J. Felix, and Helen Hudson added a valuable dimension through their expertise.

Throughout the project, Virginia K. Saba of the Division of Nursing, Health Resources Administration, provided invaluable guidance to the project staff.

Finally, congratulations are extended to the highly capable research staff of the agency: Rovia Rich, Gary Bargstadt, Karen Martin, and Nancy Scheet. Their commitment to the practice of community health nursing and their desire to facilitate the performance of high quality care assured the success of this project.

DeLanne A. Simmons

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PART I: DEVELOPMENT

Part I: DEVELOPMENT

This manual presents a method for classifying client or patient problems diagnosed by the staff nurse in the community health agency environment. While it is recognized that other health professionals play an integral role in the provision of client care, the manual will address only that component provided by community health nurses. This does not preclude its use by other health disciplines. The problem classification scheme, developed by community health nurses, is consistent with the following definition of community health nursing:

> Community health nursing is a synthesis of nursing practice and public health practice applied to promoting and preserving the health of populations. The nature of this practice is general and comprehensive. It is not limited to a particular age or diagnostic group. It is continuing, not episodic.... Health promotion, health maintenance, health education, coordination and continuity of care are utilized in a holistic approach to the family, group, and community. The nurse's actions acknowlege the need for comprehensive health planning, recognize the influences of social and ecological issues, give attention to populations at risk and utilize the dynamic forces which influence change (1).[1]

A. BACKGROUND

This classification scheme was developed, revised, and refined by the Visiting Nurse Association (VNA) of Omaha, Nebraska, under contract with the Division of Nursing, Health Resources Administration, Department of Health, Education, and Welfare (2,3). This contract was initiated for the "development of a problem classification scheme, a methodology for its use, and a system design to computerize the scheme for community health nursing services." The classification scheme is a logical outcome of the efforts of community health nurses to provide a uniform framework for identifying client problems.

Community health agencies use a variety of forms and recording systems to document client needs and the services provided to meet those needs. Community health nurses use these forms and recording systems to document the assessment of client problems, formulation and implementation of plans for intervention, and evaluation of outcome. Documentation in the client record also includes medical, demographic, and sociological information.

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[1] Numbers in parentheses refer to literature cited in reference list preceding appendix A.

The information may be written in narrative form, constructed in a checklist, or arranged in the format of a problem-oriented record. The problem classification scheme used in conjunction with the problem-oriented record can reflect concepts and philosophies of community health nursing practice.

The concepts of classifying nursing diagnoses and the development of classification systems are discussed in the literature review, appendix E.

B. ADVANTAGES

Community health nurses in agencies using the classification scheme in the home visit setting report a number of benefits from its use. Based on their experience and evaluation, the following advantages and potential benefits may be expected:

- Recording is accomplished faster. The wording is predetermined and accessible, thus relieving the nurses of generating problem names each time.
- It is easier to differentiate the data as significant or extraneous because the signs or symptoms provide a guideline for sorting and evaluating.
- The feeling of being overwhelmed that may initially accompany the assessment of a complex or multiproblem health situation is decreased because the nurse can immediately perceive the client needs.
- The specificity of the problem names and the signs or symptoms provides the basis for planning intervention measures.
- Transfer of client or family health records within the agency is easier, since the nurses involved in the transfer use the standardized system for labeling and recording problems.
- Use of the classification scheme enables the nurse to see accomplishments. Previously, when all of the nursing focus was grouped under a broad problem name, the successful resolution of components of the problem was disguised. As the components are identified separately, within the classification scheme, the resolution of one or two demonstrates progress.
- The classification scheme is a valuable supervisory tool for evaluation of staff nurses. A nursing supervisor has the capability of following the nurse's thought processes from the collection of data to the identification of problem labels on the problem list. The supervisor is then able to assist staff nurses who are experiencing difficulty with this process.
- Analysis of specific problems addressed by nurses enables the agency to systematically develop and revise programs according to client and community needs. In addition, distribution of resources can be tailored to health needs of specific community areas.

- Problem labels and their signs and symptoms, stated clearly and concisely, can be useful in interpreting community health nursing services to others. A clear interpretation of services can be especially crucial when the agency must compete for funding and justify the need for existing or new programs.

- Cost analysis and cost effectiveness can be enhanced by using the problem classification scheme. Nursing activities can be related to specific client problems resulting in cost centers for different client needs. Proficient use of the problem classification scheme will demand less time in recording and allow more nursing time for direct client care.

- The classification scheme allows for computerization of the nursing record. Computerization offers multiple options related to the information management needs of an agency. These are discussed in part I, section F.

C. DESIGN AND TESTING

The problems in the classification scheme were derived empirically from the actual practice of community health nursing in the home setting. A sample of 93 client records was randomly selected and reviewed for aid in designing the pilot study. The pilot study itself consisted of 338 families newly admitted to care during the period March 7, 1976, to June 7, 1976. The data collected by the staff on this client population were used to develop and refine the classification scheme proposed in this manual.

The problem classification scheme was then tested with a sample of 99 families selected from the active client census. This sample of families was representative by age and diagnosis of the entire caseload of the agency. Revisions were made following this testing and the scheme was formally implemented within the VNA of Omaha (see appendix D).

The completed scheme, as well as draft versions of this manual, were tested by three other community health agencies. Objectives of the testing were:

- Test the reliability of the structure of the problems which comprise the classification scheme;

- Test the reliability of the classification scheme for community health nursing practice in diverse settings;

- Determine the completeness of the problem labels which comprise the problem classification scheme;

- Determine the usability and usefulness of the problem classification scheme for community health nursing practice in diverse settings;

- Determine the effectiveness of the manual as a tool for implementing the classification scheme;

- Determine the adequacy of the training program and descriptive material in the manual.

The test agencies were selected to reflect the diversity of settings in which community health nurses practice. The Public Health Nursing Association of Des Moines, Iowa, represented combined official and voluntary community health nursing agencies. The Division of Public Health, Bureau of Nursing, State of Delaware represented official agencies, while the Dallas Visiting Nurse Association represented voluntary agencies.

The manual was used at each test agency to orient staff nurses to the classification scheme. At the first test agency, project staff from the VNA of Omaha were involved in the presentation of training material. The amount of involvement of VNA of Omaha staff decreased with the second test agency, and the third test agency presented the training program independently.

The procedures used by the test agencies were similar. Nursing staff at each test agency completed a data base and problem list, utilizing the classification scheme, on approximately 100 clients newly admitted to the service. These lists were compared with problem lists generated from the same data bases by project staff members from the VNA of Omaha. Statistical analysis was completed by Information Management Services, Inc. (IMS). (See appendix D.) The scheme was then revised, using data from the test agencies, the staff of the VNA of Omaha, and the project advisory committee.

The revised scheme was then tested by the VNA of Omaha and the three test agencies. Nursing staff in each agency used the classification scheme with a total of 125 active client records. Each problem label from the scheme was used and no new problem labels emerged.

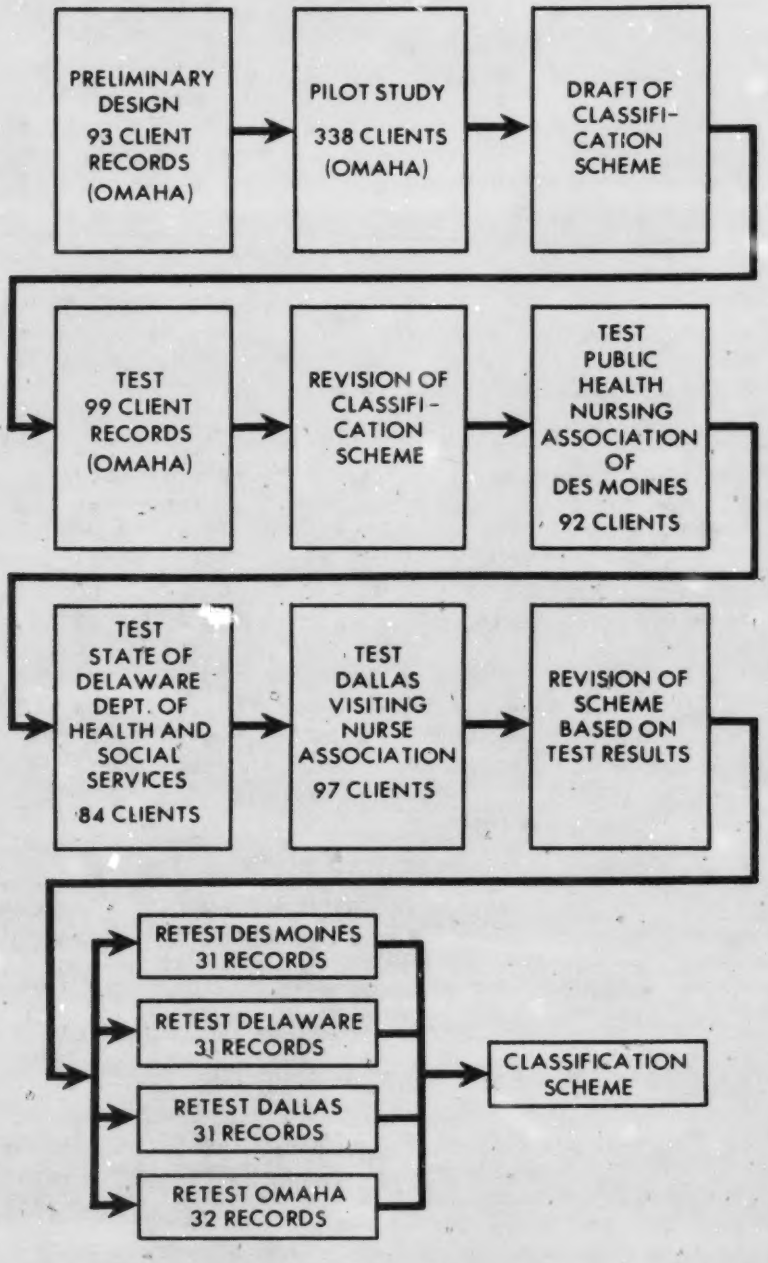
Figure 1 depicts the process by which the classification scheme was developed.

D. DESCRIPTION

The classification scheme is an orderly arrangement of a nonexhaustive list of client problems diagnosed by nurses in a community health setting. It is subdivided into four major domains, each including the names of problems identified in each domain, modifiers of these problems, and signs or symptoms of the problems. For agencies that wish to computerize the scheme (see Part I-G), each specific item is assigned a numerical code, which allows for expansion in each domain.

The four major domains of the classification scheme represent broad areas of client problems which are addressed by the community health nurse. Definitions of these domains are as follows:

Figure 1. Development of the classification scheme


PRELIMINARY DESIGN
93 CLIENT RECORDS (OMAHA)
PILOT STUDY
338 CLIENTS (OMAHA)
DRAFT OF CLASSIFI-CATION SCHEME
TEST 99 CLIENT RECORDS (OMAHA)
REVISION OF CLASSIFI-CATION SCHEME
TEST PUBLIC HEALTH NURSING ASSOCIATION OF DES MOINES
92 CLIENTS
TEST STATE OF DELAWARE DEPT. OF HEALTH AND SOCIAL SERVICES
84 CLIENTS
TEST DALLAS VISITING NURSE ASSOCIATION
97 CLIENTS
REVISION OF SCHEME BASED ON TEST RESULTS
RETEST DES MOINES 31 RECORDS
RETEST DELAWARE 31 RECORDS
RETEST DALLAS 31 RECORDS
RETEST OMAHA 32 RECORDS
CLASSIFICATION SCHEME

1. ENVIRONMENTAL-- Refers to the material resources and physical surroundings of the home, neighborhood, and broader community in which the client lives. This domain focuses on factors external to the client which affect the health or illness of that client.

2. PSYCHOSOCIAL-- Refers to patterns of behavior, communication, relationship, and development. This domain includes problems which address the relationships of the client as an individual or the family with other persons. These persons may be immediate or extended family members, significant others, neighbors, acquaintances, or community workers. Thus, this group of problems often reflects inability of the individual or family to interact positively with persons inside or outside the family unit.

3. PHYSIOLOGICAL-- Refers to the functional status of processes that maintain life. Due to the focus of the problems in this domain, the labels tend to be referenced to the client as an individual rather than to the client as a family unit.

4. HEALTH BEHAVIORS-- Refers to activities which maintain or promote wellness, promote recovery, or maximize rehabilitation. The problems address health-seeking behaviors which have the potential of improving the quality of the client's life. Personal motivation on the part of the client is especially critical in resolving this group of problems, since he or she must change health behavior appropriately, often without rapid or visible benefits.

The client problems are grouped within these four major domains. A problem label is comprised of a single word or group of words which precede the colon in the classification scheme language (see example below). Words immediately following the colon are modifiers. A problem may be designated as actual or potential. Additionally, each problem may be referenced to an individual or to a family as a unit.

Problems are described by a cluster of signs or symptoms which are listed beneath each problem in the scheme. The signs or symptoms are general statements which condense more specific information about the client. All individuals or families exhibiting a given problem will not present identical signs and symtoms in quantity and severity.

E. CLASSIFICATION SCHEME

The hiearchy of the classification scheme includes domains, problem labels and modifiers, and signs or symptoms. The domain appears first, then the problem label followed by a colon and the problem modifier, if there is one, and then the signs or symptoms. The levels of the classification scheme are reflected in the following example:

Domain	Problem label	Modifier	Sign or symptom
ENVIRONMENTAL	INCOME:	Deficit	low/no income

The classification scheme without numeric codes is shown on the following pages. The scheme with numeric codes is contained in Part I-H.

ENVIRONMENTAL

INCOME: Deficit

- low/no income
- high medical expenses not covered by insurance
- expresses/demonstrates difficulty understanding money management
- able to buy only necessities
- difficulty buying necessities (e.g., food, clothing)

SANITATION: Deficit

- soiled living area
- inadequate/improper food storage/disposal
- insects/rodents present
- foul odor
- inadequate water supply
- inadequate sewage disposal

SAFETY HAZARDS: Residence

- structurally unsound
- inadequate heat
- steep stairs
- obstructed exits/entries
- cluttered living space
- unsafe storage of dangerous objects/substances
- unsafe mats and throw rugs
- lacks needed safety devices
- lead base paint present
- unsafe gas/electrical appliances

SAFETY HAZARDS: Neighborhood

- high crime rate
- high pollution level (e.g., noise, air, waste)
- uncontrolled animals
- high traffic area

PSYCHOSOCIAL

COMMUNICATION WITH COMMUNITY RESOURCES: Impairment

- unfamiliar with procedures for obtaining services (e.g., education, health care, transportation, food, day care, recreation, furniture, clothing, religion)
- difficulty understanding roles of service providers
- unable to communicate concerns to service provider
- expresses dissatisfaction with services provided
- language barrier

ISOLATION: Social

- lacks contact with family/friends
- alone most of time
- uses health care provider for social contact
- minimal outside stimulation/leisure time activities

BEHAVIORAL PATTERN: Impairment

- demonstrates inappropriate suspicion
- demonstrates inappropriate manipulation
- exhibits compulsive behavior
- demonstrates passive-aggressive behavior

ROLE CHANGE: Impairment

- reversal of traditional male/female roles
- reversal of dependent/independent roles
- assumes new role with loss of previous role
- assumes additional role(s)

INTERPERSONAL CONFLICT:

- expresses disillusionment with relationship
- lacks shared activities
- incongruent values/goals
- poor interpersonal communication
- expresses prolonged, unrelieved stress

GRIEF:

- exhibits shock and disbelief
- exhibits denial
- exhibits anger
- exhibits bargaining
- family/individual in conflicting stages of grief process
- exhibits nonacceptance

PSYCHOSOCIAL (continued)

CONFUSION:

- diminished attention span
- disoriented to time/place/person
- forgetful
- inability to do simple calculations
- inability to concentrate

DEPRESSION:

- downcast/sad/tearful
- expresses feelings of hopelessness/worthlessness
- loss of interest/involvement in activity
- excessive inward focus
- flat affect (e.g., monotone speech, limited body language)
- expresses wish to die
- attempts suicide
- fails to meet personal needs

ANXIETY:

- expresses feelings of apprehension
- irritable
- undefined fear(s)
- much purposeless activity
- inappropriate concern over minor things
- tremors
- narrow perceptual focus to scattering of attention

HUMAN SEXUALITY: Impairment

- fails to recognize consequences of sexual behavior
- relates difficulty expressing intimacy
- sexual identity confusion

PARENTING: Impairment

- provides restrictive environment
- handles child with difficulty
- expresses dissatisfaction with parenting role
- communicates inappropriately with child
- uses excessive/inadequate/inconsistent control
- conveys expectations incongruent with child's level of growth and development
- lacks skills for caretaking (e.g., feeding, bathing, elimination)
- lacks consistent routine for caretaking (e.g., feeding, bathing, sleeping)
- inappropriate health care for minor injuries/accidents

PSYCHOSOCIAL (continued)

NEGLECT: Child/Adult

- primary caretaker inappropriately relinquishes responsibilities
- fails to recognize psychosocial needs of child/adult
- inadequate/delayed medical care
- poor personal/environmental hygiene
- child/adult left alone inappropriately
- child/adult lacks necessary supervision
- child/adult lacks appropriate stimulation/care

ABUSE: Child/Adult

- harsh discipline
- welts/bruises observed/reported
- injury with questionable explanation
- verbal attacks
- child/adult exhibits fearful behavior
- physical violence
- scapegoating
- child/adult consistently receives negative messages
- sexual violence

GROWTH AND DEVELOPMENTAL LAG:

- abnormal results of development screening tests (improvised/standardized)
- slow gain in weight/height/head circumference in relation to growth curve
- behavior inappropriate for age

PHYSIOLOGICAL

HEARING: Impairment

- unable to hear normal speech tones
- limited/abnormal response to sound
- favors one ear for listening
- abnormal results of hearing screening test (improvised/standardized)

VISION: Impairment

- difficulty/inability to see small print/calibrations (e.g., syringe, thermometer)
- difficulty/inability to see distant objects
- difficulty/inability to see close objects
- limited/abnormal response to visual stimuli
- abnormal results of vision screening test (improvised/standardized)
- squinting/blinking/tearing/blurring
- color blindness

PHYSIOLOGICAL (continued)

SPEECH AND LANGUAGE: Impairment

- lacks ability to speak
- demonstrates inability to understand
- relies on nonverbal communication
- uses inappropriate sentence structure
- demonstrates poor enunciation or clarity
- uses words inappropriately

DENTITION: Impairment

- missing/broken teeth
- decayed teeth
- sore gums
- ill-fitting dentures

RESPIRATION: Impairment

- abnormal breath patterns (e.g., shortness of breath, dyspnea)
- cough
- cyanosis (with or without activity)
- abnormal sputum
- noisy respirations
- rhinorrhea
- abnormal breath sounds

CIRCULATION: Impairment

- edema
- cramping/pain of extremities
- decreased pulses
- discoloration of skin/cyanosis
- temperature change in affected area
- varicosities
- syncopal episodes
- abnormal blood pressure reading
- pulse deficit
- irregular heart rate
- excessively rapid/slow heart rate
- reports anginal pain
- abnormal heart sounds

NEURO-MUSCULO-SKELETAL FUNCTION: Impairment

- limited range of motion (e.g., ROM/contractures)
- poor coordination
- gait/ambulation disturbance
- decreased muscle strength/muscle tightness
- inability to manage activities of daily living
- tremors

PHYSIOLOGICAL (continued)

DIGESTIVE FUNCTION: Impairment

- nausea/vomiting
- difficulty chewing/swallowing
- indigestion/heartburn
- anorexia
- anemia
- abnormal weight loss

REPRODUCTIVE FUNCTION: Family Planning

- inappropriate/insufficient knowledge of family planning method(s)
- inaccurate/inconsistent use of family planning method(s)
- dissatisfied with present family planning method

REPRODUCTIVE FUNCTION: Pregnancy

- inability to cope with changing body
- lifestyle incongruent with physiological changes
- minor discomforts
- fears delivery procedure
- inability to cope with present body needs

REPRODUCTIVE FUNCTION: Impairment

- unusual/abnormal discharge
- abnormal menstrual patterns
- unusual changes in breasts
- unusual changes in testicles/penis
- dyspareunia (i.e., painful intercourse)

BOWEL FUNCTION: Impairment

- diarrhea
- constipation
- pain with defecation
- minimal bowel sounds
- blood in stools
- abnormal color
- reports cramping/abdominal discomfort
- increased frequency of stools
- incontinent of stools

URINARY FUNCTION: Impairment

- incontinent of urine
- urgency/frequency
- burning/painful urination
- inability to empty bladder
- nocturia

PHYSIOLOGICAL (continued)

URINARY FUNCTION: Impairment (continued)

- polyuria
- oliguria
- hematuria

INTEGUMENT: Impairment

- lesion (e.g., wound, burn, incision)
- rash
- hypertrophy of nails
- excessively oily
- inflammation
- drainage

PAIN:

- statement of client
- elevated pulse/respirations/blood pressure
- movement compensation
- restless behavior
- facial grimaces
- pallor/sweating

CONSCIOUSNESS: Impairment

- lacks response to normal stimuli (e.g., touch, noise)

HEALTH BEHAVIORS

NUTRITION: Impairment

- weight 10 percent more/less than average
- lacks/exceeds established standards for daily caloric intake
- lacks/exceeds intake of one or more essential food groups/nutrients
- lacks/exceeds appropriate fluid intake
- improper feeding schedule for age
- emaciated/obese

SLEEP AND REST PATTERNS: Impairment

- sleep/rest pattern interferes with family lifestyle
- wakes frequently during night
- somnambulism (i.e., walks in sleep)
- insomnia
- nightmares
- insufficient sleep/rest for age/physical condition

HEALTH BEHAVIORS (continued)

PHYSICAL ACTIVITY: Impairment

- sedentary lifestyle
- lacks regular exercise routine
- type/amount of exercise inappropriate for age/physical condition

PERSONAL HYGIENE: Deficit

- dirty clothing
- dirty skin
- body odor
- matted/unclean hair
- unclean teeth
- halitosis

SUBSTANCE: Misuse

- abuses nonprescription drugs (e.g., medications, alcohol, nicotine)
- unable to perform normal routines
- reflex disturbances
- demonstrates change in behavior

THERAPEUTIC REGIME NONCOMPLICANCE: Medical/Dental Supervision

- fails to obtain routine medical/dental evaluation
- fails to seek care for symptoms requiring medical/dental evaluation
- fails to return as requested to physician/dentist
- lacks consistent source of medical/dental care
- medical/dental supervision sought by client but prescribed regime appears inadequate to meet client needs

THERAPEUTIC REGIME NONCOMPLIANCE: Prescribed Treatment Plan

- fails to perform treatment as ordered
- fails to obtain needed equipment

THERAPEUTIC REGIME NONCOMPLIANCE: Prescribed Medications

- deviates from prescribed dosage
- lacks system for taking medication
- medication improperly stored
- fails to obtain refills appropriately
- fails to obtain immunizations

THERAPEUTIC REGIME NONCOMPLIANCE: Prescribed Diet

- inability to integrate dietary prescription into balanced nutritional daily pattern
- does not adhere to diet as prescribed

HEALTH BEHAVIORS (continued)

TECHNICAL PROCEDURE: Deficit

- unable to demonstrate/relate procedure accurately
- requires nursing skill
- unable to perform procedure without assistance
- unable to operate special equipment correctly

F. CLASSIFICATION SCHEME IN PERSPECTIVE

The problem classification scheme serves as a stepping stone or one part of a larger whole when used in conjunction with a family problem-oriented record. At the Visiting Nurse Association of Omaha, the scheme provides a systematic format which enables the community health nurse to identify and label client problems. The list of problems thus identified becomes part of the record. The plans for nursing intervention and solution of the problems are developed.

Another project which is directly related to the problem classification scheme and the nursing process has been designed to identify expected outcomes and criterion measures associated with each problem label. This additional step would assist the community health nurse in planning interventions. Definitions used in the current project are as follows:

Expected Outcome: a statement of the intended or realistically anticipated change, improvement, or solution of a nursing problem at a specified point in time (4,5,6,7).

Criterion Measure: a statement which increases the specificity and measurement potential of the expected outcome, such as a description of how a client will look, feel, or behave after nursing action is implemented (8,9, 10,11,12,13).

The community health nurse who has developed a problem list and associated expected outcomes and criterion measures proceeds to select and implement appropriate intervention techniques. The nurse continues to assess the client's status and modifies these interventions as needed.

A specific time frame is established as an integral part of each expected outcome statement. At the end of that time period, the community health nurse can compare the current status of the client (actual outcome) with the previously established expected outcome. While neither the delineation of appropriate intervention techniques nor the comparison of expected outcomes is part of the current project, the following definition of actual outcomes is being used:

Actual Outcome: a statement of the existing status of an actual or potential problem after intervention by a community health nurse; such a statement is examined in relationship to the expected outcome (5,6,10,11).

Client records developed in the manner just described reflect nursing practice based on the nursing process. Since the record proceeds from problem identification to expected outcome, from criterion measure to intervention and to actual outcome, evaluation is incorporated into the system. It is hoped that such a system will provide a sound and usable mechanism for improving and monitoring nursing practice and, most importantly, client care.

G. COMPUTER APPLICATION

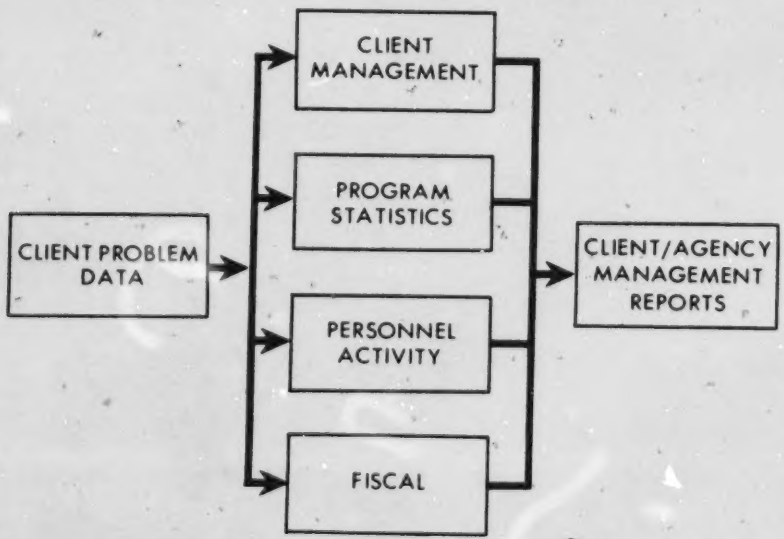
Use

The structure of the classification scheme easily adapts to a computerized system of recordkeeping. The structure facilitates the storage and retrieval of data on client problems which can be correlated with other data in the system. Each client problem can be identified by a unique numeric code which describes the domain, problem label, modifier, and sign or symptom. These unique codes can be used as standards for comparability.

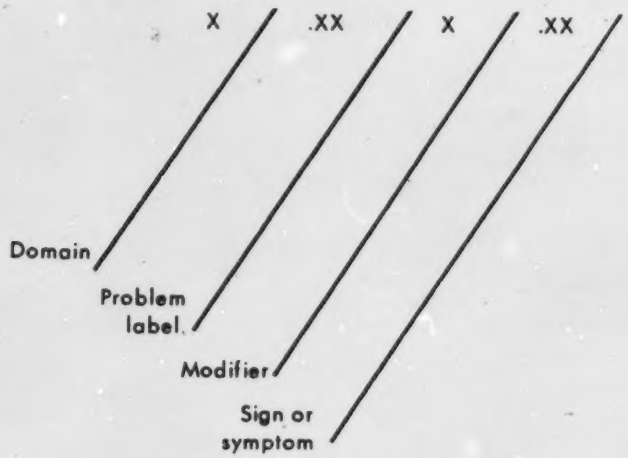
As the list of client problems is nonexhaustive, the numberic coding system is designed to allow for expansion in each domain, and any computer system can make provision for additions to the coded list. The classification scheme with numeric codes is shown in Part I-H.

The client problem data, developed with the use of the coded classification scheme, can be entered as input into any computer system. Such information can be used quickly and easily to provide lists showing the numbers and types of client problems assessed by the agency staff and the distribution of these problems by client. Also, it can be used as a component of the client management module in a computer system to assist in the supervision of client care and the administration of agency programs (figure 2). In addition, statistical reports of specific problems may be developed as determined by the agency needs. A number of these reports are described in Part I-I, Computer-Based System Design.

Figure 2. Model of a management information system for community health nursing clients



For agencies that choose to computerize the classification scheme, the numeric coding system is illustrated and described below:



The X's in the illustration represent the six digits in the numeric code assigned to each problem.

The first digit of the numeric code is the number assigned to each of the four major domains, i.e.:

1. ENVIRONMENTAL
2. PSYCHOSOCIAL
3. PHYSIOLOGICAL
4. HEALTH BEHAVIORS

The second and third digits of the code represent the problem label within each domain; the fourth digit describes the modifier; and the last two digits indicate the sign or symptom of the problem. To maintain the consistency of this six-digit code throughout the scheme, the problem labels that have no modifiers have been coded with the number 1 as the fourth digit. For clarity and ease of recording, decimal points are entered before and after the three digits designated for problem label and modifier.

Examples of Coding

The following are examples of the numeric codes in the classification scheme:

1. Problem assessed: Abnormal breath pattern noted. The nurse assesses this as a physiological condition, a problem of impaired respiration.

Code:

Domain	Problem Label:	Modifier	Sign or Symptom
3	05	1	01
PHYSIOLOGICAL	RESPIRATION:	Impairment	abnormal breath patterns

Explanation:

3 identifies the third domain in the classification scheme, PHYSIOLOGICAL
05 identifies the problem label, RESPIRATION:
1 identifies the modifier, Impairment
01 is the first sign or symptom listed under the problem RESPIRATION: Impairment, i.e., abnormal breath patterns.

2. Problem assessed: Patient deviates from prescribed dosage of medications. The nurse assesses this as a problem of health behavior.

Code:

Domain	Problem Label:	Modifier	Sign or Symptom
4	06	3	01
HEALTH BEHAVIORS	NONCOMPLIANCE WITH THERAPEUTIC REGIME	Prescribed Medications	deviates from prescribed dosage

Explanation:

4 identifies the fourth major domain in the classification scheme, HEALTH BEHAVIORS
06 identifies the problem label, NONCOMPLIANCE WITH THERAPEUTIC REGIME
3 identifies the modifier, Prescribed Medications
01 is the first sign or symptom listed under the problem NONCOMPLIANCE WITH THERAPEUTIC REGIME: Prescribed Medications, i.e., deviates from proscribed dosage.

Format

The classification scheme in Part I-H includes the numeric coding illustrated in Part I-G. The codes identify the domain, the problem label and modifier, and the signs or symptoms.

As stated in the discussion of computer application, the numbering system allows for additional problems that are not presently included in the classification scheme. For example, in the domain PHYSIOLOGICAL, 14 problem labels are included in the scheme. If an agency identifies an additional problem in this domain, it may be coded as 3.151, i.e.,

3 identifies the domain PHYSIOLOGICAL
15 identifies the new problem label
1 identifies either one modifier or no modifier; if a second modifier is listed, it will be number 2, etc.

In addition, the signs or symptoms of the problem will be coded 01, 02, 03, etc.

H. CODED CLASSIFICATION SCHEME

1. ENVIRONMENTAL

1.011 INCOME: Deficit

- 1.011.01 low/no income
- 1.011.02 high medical expenses not covered by insurance
- 1.011.03 expresses/demonstrates difficulty understanding money management
- 1.011.04 able to buy only necessities
- 1.011.05 difficulty buying necessities (e.g., food, clothing)

1.021 SANITATION: Deficit

- 1.021.01 soiled living area
- 1.021.02 inadequate/improper food storage/disposal
- 1.021.03 insects/rodents present
- 1.021.04 foul odor
- 1.021.05 inadequate water supply
- 1.021.06 inadequate sewage disposal

1.031 SAFETY HAZARDS: Residence

- 1.031.01 structurally unsound
- 1.031.02 inadequate heat
- 1.031.03 steep stairs
- 1.031.04 obstructed exits/entries
- 1.031.05 cluttered living space
- 1.031.06 unsafe storage of dangerous objects/substances
- 1.031.07 unsafe mats and throw rugs
- 1.031.08 lacks needed safety devices
- 1.031.09 lead base paint present
- 1.031.10 unsafe gas/electrical applicances

1.032 SAFETY HAZARDS: Neighborhood

- 1.032.01 high crime rate
- 1.032.02 high pollution level (e.g., noise, air, waste)
- 1.032.03 uncontrolled animals
- 1.032.04 high traffic area

2. PSYCHOSOCIAL

2.011 COMMUNICATION WITH COMMUNITY RESOURCES: Impairment

- 2.011.01 unfamiliar with procedures for obtaining services (e.g., education, health care, transportation, food, day care, recreation, furniture, clothing, religion)
- 2.011.02 difficulty understanding roles of service providers
- 2.011.03 unable to communicate concerns to service provider
- 2.011.04 expresses dissatisfaction with services provided
- 2.011.05 language barrier

2.021 ISOLATION: Social

- 2.021.01 lacks contact with family/friends
- 2.021.02 alone most of time
- 2.021.03 uses health care provider for social contact
- 2.021.04 minimal outside stimulation/leisure time activities

2.031 BEHAVIORAL PATTERN: Impairment

- 2.031.01 demonstrates inappropriate suspicion
- 2.031.02 demonstrates inappropriate manipulation
- 2.031.03 exhibits compulsive behavior
- 2.031.04 demonstrates passive-aggressive behavior

2.041 ROLE CHANGE: Impairment

- 2.041.01 reversal of traditional male/female roles
- 2.041.02 reversal of dependent/independent roles
- 2.041.03 assumes new role with loss of previous role
- 2.041.04 assumes additional role(s)

2.051 INTERPERSONAL CONFLICT:

- 2.051.01 expresses disillusionment with relationship
- 2.051.02 lacks shared activities
- 2.051.03 incongruent values/goals
- 2.051.04 poor interpersonal communication
- 2.051.05 expresses prolonged, unrelieved stress

2.061 GRIEF:

- 2.061.01 exhibits shock and disbelief
- 2.061.02 exhibits denial
- 2.061.03 exhibits anger
- 2.061.04 exhibits bargaining
- 2.061.05 family/individual in conflicting stages of grief process

2. PSYCHOSOCIAL (continued)

2.071 CONFUSION:

- 2.071.01 diminished attention span
- 2.071.02 disoriented to time/place/person
- 2.071.03 forgetful
- 2.071.04 inability to do simple calculations
- 2.071.05 inability to concentrate

2.081 DEPRESSION:

- 2.081.01 downcast/sad/tearful
- 2.081.02 expresses feelings of hopelessness/worthlessness
- 2.081.03 loss of interest/involvement in activity
- 2.081.04 excessive inward focus
- 2.081.05 flat affect (e.g., monotone speech, limited body language)
- 2.081.06 expresses wish to die
- 2.081.07 attempts suicide
- 2.081.08 fails to meet personal needs

2.091 ANXIETY

- 2.091.01 expresses feelings of apprehension
- 2.091.02 irritable
- 2.091.03 undefined fear(s)
- 2.091.04 much purposeless activity
- 2.091.05 inappropriate concern over minor things
- 2.091.06 tremors
- 2.091.07 narrow perceptual focus to scattering of attention

2.101 HUMAN SEXUALITY: Impairment

- 2.101.01 fails to recognize consequences of sexual behavior
- 2.101.02 relates difficulty expressing intimacy
- 2.101.03 sexual identify confusion

2.111 PARENTING: Impairment

- 2.111.01 provides restrictive environment
- 2.111.02 handles child with difficulty
- 2.111.03 expresses dissatisfaction with parenting role
- 2.111.04 communicates inappropriately with child
- 2.111.05 uses excessive/inadequate/inconsistent control
- 2.111.06 conveys expectations incongruent with child's level of growth and development
- 2.111.07 lacks skills for caretaking (e.g., feeding, bathing, elimination)
- 2.111.08 lacks consistent routine for caretaking (e.g., feeding, bathing, sleeping)
- 2.111.09 inappropriate health care for minor injuries/accidents

2. PSYCHOSOCIAL (continued)

2.121 NEGLECT: Child/Adult

- 2.121.01 primary caretaker inappropriately relinquishes responsibilities
- 2.121.02 fails to recognize psychosocial needs of child/adult
- 2.121.03 inadequate/delayed medical care
- 2.121.04 poor personal /environmental hygiene
- 2.121.05 child/adult left alone inappropriately
- 2.121.06 child/adult lacks necessary supervision
- 2.121.07 child/adult lacks appropriate stimulation/care

2.131 ABUSE: Child/Adult

- 2.131.01 harsh discipline
- 2.131.02 welts/bruises observed/reported
- 2.131.03 injury with questionable explanation
- 2.131.04 verbal attacks
- 2.131.05 child/adult exhibits fearful behavior
- 2.131.06 physical violence
- 2.131.07 scapegoating
- 2.131.08 child/adult consistently receives negative messages
- 2.131.09 sexual violence

2.141 GROWTH AND DEVELOPMENTAL LAG:

- 2.141.01 abnormal results of development screening tests (improvised/standardized)
- 2.141.02 slow gain in weight/height/head circumference in relation to growth curve
- 2.141.03 behavior inappropriate for age

3. PHYSIOLOGICAL

3.011 HEARING: Impairment

- 3.011.01 unable to hear normal speech tones
- 3.011.02 limited/abnormal response to sound
- 3.011.03 favors one ear for listening
- 3.011.04 abnormal results of hearing screening test (improvised/standardized)

3.021 VISION

- 3.021.01 difficulty/inability to see small print/calibrations (e.g., syringe, thermometer)
- 3.021.02 difficulty/inability to see distant objects
- 3.021.03 difficulty/inability to see close objects
- 3.021.04 limited/abnormal response to visual stimuli
- 3.021.05 abnormal results of vision screening test (improvised/standardized)

3. PHYSIOLOGICAL (continued)

3.021 VISION: Impairment (continued)

- 3.021.06 squinting/blinking/tearing/blurring
- 3.021.07 color blindness

3.031 SPEECH AND LANGUAGE: Impairment

- 3.031.01 lacks ability to speak
- 3.031.02 demonstrates inability to understand
- 3.031.03 relies on nonverbal communication
- 3.031.04 uses inappropriate sentence structure
- 3.031.05 demonstrates poor enunciation or clarity
- 3.031.06 uses words inappropriately

3.041 DENTITION: Impairment

- 3.041.01 missing/broken teeth
- 3.041.02 decayed teeth
- 3.041.03 sore gums
- 3.041.04 ill-fitting dentures

3.051 RESPIRATION: Impairment

- 3.051.01 abnormal breath patterns (e.g., shortness of breath, dyspnea)
- 3.051.02 cough
- 3.051.03 cyanosis (with or without activity)
- 3.051.04 abnormal sputum
- 3.051.05 noisy respirations
- 3.051.06 rhinorrhea
- 3.051.07 abnormal breath sounds

3.061 CIRCULATION: Impairment

- 3.061.01 edema
- 3.061.02 cramping/pain of extremities
- 3.061.03 decreased pulses
- 3.061.04 discoloration of skin/cyanosis
- 3.061.05 temperature change in affected area
- 3.061.06 varicosities
- 3.061.07 syncopal episodes
- 3.061.08 abnormal blood pressure reading
- 3.061.09 pulse deficit
- 3.061.10 irregular heart rate
- 3.061.11 excessively rapid/slow heart rate
- 3.061.12 reports anginal pain
- 3.061.13 abnormal heart sounds

3. PHYSIOLOGICAL (continued)

3.071 NEURO-MUSCULO-SKELETAL FUNCTION: Impairment

- 3.071.01 limited range of motion (e.g., ROM/contractures)
- 3.071.02 poor coordination
- 3.071.03 gait/ambulation disturbance
- 3.071.04 decreased muscle strength/muscle tightness
- 3.071.05 inability to manage activities of daily living
- 3.071.06 tremors

3.081 DIGESTIVE FUNCTION: Impairment

- 3.081.01 nausea/vomiting
- 3.081.02 difficulty chewing/swallowing
- 3.081.03 indigestion/heartburn
- 3.081.04 anorexia
- 3.081.05 anemia
- 3.081.06 abnormal weight loss

3.091 REPRODUCTIVE FUNCTION: Family Planning

- 3.091.01 inappropriate/insufficient knowledge of family planning method(s)
- 3.091.02 inaccurate/inconsistent use of family planning method(s)
- 3.091.03 dissatisfied with present family planning method

3.092 REPRODUCTIVE FUNCTION: Pregnancy

- 3.092.01 inability to cope with changing body
- 3.092.02 lifestyle incongruent with physiological changes
- 3.092.03 minor discomforts
- 3.092.04 fears delivery procedure
- 3.092.05 inability to cope with present body needs

3.093 REPRODUCTIVE FUNCTION: Impairment

- 3.093.01 unusual/abnormal discharge
- 3.093.02 abnormal menstrual patterns
- 3.093.03 unusual changes in breasts
- 3.093.04 unusual changes in testicles/penis
- 3.093.05 dyspareunia (i.e., painful intercourse)

3.101 BOWEL FUNCTION: Impairment

- 3.101.01 diarrhea
- 3.101.02 constipation
- 3.101.03 pain with defecation
- 3.101.04 minimal bowel sounds
- 3.101.05 blood in stools
- 3.101.06 abnormal color

3. PHYSIOLOGICAL (continued)

3.101 BOWEL FUNCTION: Impairment (continued)

3.101.07 reports of cramping/abdominal discomfort
3.101.08 increased frequency of stools
3.101.09 incontinent of stools

3.111 URINARY FUNCTION: Impairment

3.111.01 incontinent of urine
3.111.02 urgency/frequency
3.111.03 burning/painful urination
3.111.04 inability to empty bladder
3.111.05 nocturia
3.111.06 polyruria
3.111.07 oliguria
3.111.08 hematuria

3.121 INTEGUMENT: Impairment

3.121.01 lesion (e.g., wound, burn, incision)
3.121.02 rash
3.121.03 hypertrophy of nails
3.121.04 excessively dry
3.121.05 excessively oily
3.121.06 inflammation
3.121.07 drainage

3.131 PAIN:

3.131.01 statement of client
3.131.02 elevated pulse/respirations/blood pressure
3.131.03 movement compensation
3.131.04 restless behavior
3.131.05 facial grimaces
3.131.06 pallor/sweating

3.141 CONSCIOUSNESS: Impairment

3.141.01 lacks response to normal stimuli (e.g., touch, noise)

4. HEALTH BEHAVIORS

4.011 NUTRITION: Impairment

4.011.01 weight 10 percent more/less than average
4.011.02 lacks/exceeds established standards for daily caloric intake
4.011.03 lacks/exceeds intake of one or more essential food groups/nutrients
4.011.04 lacks/exceeds appropriate fluid intake

4. HEALTH BEHAVIORS (continued)

4.011 NUTRITION: Impairment (continued)

- 4.011.05 improper feeding schedule for age
- 4.011.06 emaciated/obese

4.021 SLEEP AND REST PATTERNS: Impairment

- 4.021.01 sleep/rest pattern interferes with family lifestyle
- 4.021.02 wakes frequently during night
- 4.021.03 somnambulism (i.e., walks in sleep)
- 4.021.04 insomnia
- 4.021.05 nightmares
- 4.021.06 insufficient sleep/rest for age/physical condition

4.031 PHYSICAL ACTIVITY: Impairment

- 4.031.01 sedentary lifestyle
- 4.031.02 lacks regular exercise routine
- 4.031.03 type/amount of exercise inappropriate for age/physical condition

4.041 PERSONAL HYGIENE: Deficit

- 4.041.01 dirty clothing
- 4.041.02 dirty skin
- 4.041.03 body odor
- 4.041.04 matted/unclean hair
- 4.041.05 unclean teeth
- 4.041.06 halitosis

4.051 SUBSTANCE: Misuse

- 4.051.01 abuses nonprescription drugs (e.g., medications, alcohol, nicotine)
- 4.051.02 unable to perform normal routines
- 4.051.03 reflex disturbances
- 4.051.04 demonstrates change in behavior

4.061 THERAPEUTIC REGIME NONCOMPLIANCE: Medical/Dental Supervision

- 4.061.01 fails to obtain routine medical/dental evaluation
- 4.061.02 fails to seek care for symptoms requiring medical/dental evaluation
- 4.061.03 fails to return as requested to physician/dentist
- 4.061.04 lacks consistent source of medical/dental care
- 4.061.05 medical/dental supervision sought by client but prescribed regime appears inadequate to meet client needs

4. HEALTH BEHAVIORS (continued)

4.062 THERAPEUTIC REGIME NONCOMPLIANCE: Prescribed Treatment Plan

- 4.062.01 fails to perform treatment as ordered
- 4.062.02 fails to obtain needed equipment

4.063 THERAPEUTIC REGIME NONCOMPLIANCE: Prescribed Medications

- 4.063.01 deviates from prescribed dosage
- 4.063.02 lacks system for taking medication
- 4.063.03 medication improperly stored
- 4.063.04 fails to obtain refills appropriately
- 4.063.05 fails to obtain immunizations

4.064 THERAPEUTIC REGIME NONCOMPLIANCE: Prescribed Diet

- 4.064.01 inability to integrate dietary prescription into balanced nutritional daily pattern
- 4.064.02 does not adhere to diet as prescribed

4.071 TECHNICAL PROCEDURE: Deficit

- 4.071.01 unable to demonstrate/relate procedure accurately
- 4.071.02 requires nursing skill
- 4.071.03 unable to perform procedure without assistance
- 4.071.04 unable to operate special equipment correctly

I. COMPUTER-BASED SYSTEM DESIGN

The coded classification scheme can be incorporated in the design and operation of a computer-based management information system for community health nursing. The structure of the standardized numeric codes, shown in the previous section, facilitates the entry of the client problem data into the system. The coded client problem data, entered as separate data input, can be a subset of data in an existing system, or can be included as a basis of client information in a newly designed system. Such data can then be combined with other information in the system, such as conditions of client management, staff personnel data, program details, fiscal information, etc., to provide complete and usable management information for the agency.

Although there are a number of options for a community health agency system, a typical model is shown in figure 2 (page 18).

The four basic modules in such a system are the client management module, the program statistics module, the personnel activity module, and the fiscal module. The functions of the modules are:

1. The client management module maintains records of client problems, demographic characteristics, and other client information. It provides a description of the health status of the clients being followed by the agency.

2. The program statistics module combines the client management, demographic, fiscal, and agency personnel data into reports which allow agency administrators to plan, direct, and evaluate agency performance.

3. The personnel activity module summarizes the activities of the personnel providing client care. It also maintains time cards, payroll history, and employee information. A subsystem within this module might be the payroll system since much of the information for payroll can be extracted from employee records.

4. The fiscal module maintains the agency chart of accounts, prepares client invoices, tracks expenditures by budget categories, and maintains the status of funding sources by account.

Client problem data can interact with data from all modules. For example, costs of services per problem might be obtained from the fiscal module; staff time available for various types of problems could be obtained from the personnel activity module; statistics for types of problems most commonly encountered could be obtained from the statistics module; and client needs could be followed through the client management module. The interaction in the system can result in reports that document various aspects of client care.

These reports generated by the system can be produced in varied formats. The frequency of production and usefulness of each report will be determined by the agency administration using the system.

A number of client management reports relating to client problems could be produced by a computer system. These might include:

- A frequency distribution of various kinds of problems assessed and accompanying signs or symptoms. This report could be used for agencywide program planning, interpretation of community health services provided to solve the client problems, and identification of inservice needs.

- A distribution of problems by census tract number, demographic data, client characteristics, and funding source. These reports could determine client profiles. Also, these could identify areas of the city in which specific problems occur; e.g., areas where there is a high incidence of child neglect or child abuse. Problems most frequently assessed in elderly people in certain areas could be documented. As a result, strategies aimed at strengthening neighborhood networks, planning programs, or documenting a need for funding sources could be implemented.

- A distribution of staff activities. The report of client encounters can be entered into the system and

information such as client characteristics, type of staff providing service, number of staff hours spent in home visiting, and source of payment can be related to problems assessed. Such information would be helpful to the agency administration for review and improvement of staffing patterns.

In summary, since the objective of the community health nursing agency is to improve the quality of client care, the most important part of the management information system is the client management module. This subsystem enables the agency staff to manage and monitor client information. Use of the coded classification scheme facilitates the entry of the client problem data into the client management module.

PART II: IMPLEMENTATION

Part II: IMPLEMENTATION

The agency's commitment to use the problem classification scheme as a part of its recording system is the first step in preparing for successful implementation of the scheme. Preparation involves two major components: planning and instruction. Planning requires the active participation of staff prior to and during implementation of the classification scheme. Instruction provides knowledge of the objectives of the scheme as well as descriptions of and practice in identifying client problems.

A. PLANNING

The planning process is directly related to the ease with which the classification scheme can be introduced into an agency. Any frustration accompanying changes in or additions to the recording system will be decreased if various personnel actively participate in an organized planning process and become committed to the scheme. Representatives of administration and management staff, nursing supervision, nursing staff, and clerical staff as well as other agency disciplines such as physical, speech, and occupational therapy may function as a steering committee prior to and during implementation of the classification scheme. These individuals serve as a core group capable of informing staff, generating acceptance, and bringing other staff concerns or suggestions back to the committee for action.

The steering committee will need to address specific questions related to use of the problem classification scheme in the agency. Some of these questions are listed below:

- In addition to nursing staff, will other personnel use the problem classification scheme?
- Will the problem classification scheme be used for all clients and in all settings within the agency?
- Will problems be identified as actual or potential, individual or family?
- Will all identified problems be included on the problem list or only those for which a care plan is being developed?
- Will signs and symptoms be recorded on the problem list form(s)?
- How will information about labels and/or signs and symptoms be transmitted from the record to the computer if the agency decides to computerize the problem classification scheme?

- Will the classification scheme be used for all visits after instruction date or only for new clients?

Decisions about these questions will be communicated to staff as instructions are given about use of the classification scheme.

During the planning process, development of a schedule for instruction and implementation is necessary. Although the classification scheme will be used primarily by nursing staff, the steering committee may elect to have separate meetings for other professional and clerical staff. A coordinator should be designated to work with the steering committee to plan such a schedule. This coordinator would also be responsible for directing the instruction of staff. Qualifications of the coordinator should be carefully considered. Especially important are an understanding of the nursing process, proficiency in use of the recording system of the agency, working knowledge of the problem-oriented record system (16), familiarity with agency procedures, and rapport with staff members. The agency's commitment to the project should be evident through the support given to the coordinator during the planning and implementation process.

B. INSTRUCTION PROCESS

The instruction process allows the supervisory, nursing, and ancillary personnel to actually use the classification scheme with their own records and experiences. Learning conditions are enhanced when a group of 10 to 12 individuals attend each meeting.

The time required for the complete instruction process will vary with each agency. For example, staff currently using a problem-oriented record system may learn to use the classification scheme after one short meeting; others may require several hours of instruction and discussion during a week. The availability of the coordinator or instructor to answer questions as they arise will expedite the use of the scheme.

Training materials include:

- the problem classification scheme,
- client records which include a data base,
- blank problem list forms for recording problems,
- definitions of terms (see appendix B),
- examples of data bases and corresponding coded problem lists, and
- alphabetical list of problem names (see appendix C).

Supplemental materials may be included in a guide which each staff member should have available for reference (see Appendix A: User's Guide Outline).

C. COURSE CONTENT

Review Definition of Nursing Process

The nursing process is a logical, dynamic, and problem-solving process by which the community health nurse implements systematic, individualized, and comprehensive care with the given client (and family) to assist such client to attain the highest possible level of functioning and wellness. The components of the nursing process are usually described as assessment, problem identification or diagnosis, formulation and implementation of a plan for intervention, and evaluation (see literature review, appendix E). The recording system of the agency should be reviewed and related to the components of the nursing process.

Discuss Advantages and Disadvantages

Briefly describe the classification scheme with its advantages and disadvantages, relating it to the nursing process and the agency's recording system. If the agency does not use a problem-oriented record, explain the difference between this type of approach and the one used by the agency.

Some advantages of the classification scheme reported by nurses who use it are as follows:

- Information noted in their contact with clients can be differentiated into the significant and the extraneous because the signs or symptoms provide guidelines for sorting and evaluating the data related to the problems.
- Their assessments of complex or multiproblem health situations are made with more confidence and ease as they become familiar with the classification scheme.
- Plans for nursing intervention are more precise because of the specificity of the problem labels and the signs or symptoms describing the problems.
- Recording is accomplished more quickly as the predetermined and accessible words of the classification scheme relieve the nurses of generating appropriate problem names at the time of the nursing assessment.
- Transfer of family health records within the agency is facilitated as the nurses involved in the transfer are using a standardized system for recording problems.
- Nurses can see their accomplishments more readily. Previously, when the nursing focus was identified under a broad problem name, the successful resolution of a part of the problem might not have been identified as progress. The use of the classification scheme and the listing of problems

with their signs or symptoms enables the nurses to see the results of their intervention as each component of a problem is resolved.

Three problems with implementation of the classification scheme which the staff may encounter are:

- Staff will require time to become proficient in use of the problem classification scheme. This, of course, will vary with the agency and the experience of the staff. Those who are accustomed to the use of a problem-oriented record may require less time than those without such experience.

- Nurses who utilize the medical classification model may initially have difficulty in adapting to a nursing problem classification scheme.

- Because the scheme is nonexhaustive, it may not include all the problems which nurses identify as they visit clients. When this occurs, the additional problems, with their signs or symptoms and appropriate code numbers may be inserted into the classification scheme.

Review Client Records

Emphasize the collection of data as the first step in utilizing the classification scheme. Any systematic method of recording the data is adaptable for use as the data base. Information from the data base is used to develop the problem list. Therefore, nurses should review and discuss data bases from actual or fictional client records.

Discuss Use and Assumptions

Review and discuss the classification scheme in depth. Three assumptions are prerequisite to discussion of the scheme:

- The problem is stated from the client's perspective. This presumes that the client has acknowledged the problem and is willing to become involved in change. The nurse's awareness or understanding of the problem may be more complete than that of the client, but nursing intervention cannot be successful unless the client participates.

- The nurse has a knowledge base of risk factors and will identify a problem within the continuum of time. Therefore, a problem may be delineated either as an existing problem or one which has a potential for occurrence although the signs or symptoms for each problem name define only the active state of the problem.

- Each problem is amenable to intervention.

Application

Using the problem classification scheme, have the group identify problems from the data contained in an actual or fictitious data base. Record the identified problems on a problem list and demonstrate coding each problem and its accompanying signs or symptoms (see Parts I-G and I-H).

Practice Period

Allow practice time to identify, list, and code problems from the example data bases found in this manual (see Part II-G). Staff may also wish to use their own recorded data bases to practice use of the classification scheme and to pose further questions.

D. USE OF THE CLASSIFICATION SCHEME

In addition to the general assumptions noted in Part II-C, it is important to observe certain precautions in the interpretation of the problem names and signs or symptoms.

- Do not confuse an intervention measure with the sign or symptom of a problem. The presence of a Foley catheter is not a problem; it is an intervention measure taken to address the real problem of impairment of the urinary function.

- Do not confuse the cause or etiology of a problem with the problem itself. A fractured limb may erroneously be considered a problem when, in fact, the real problem is impairment of the neuro-musculo-skeletal function.

- Do not view signs or symptoms in isolation, but within the whole picture of client information. For instance, the classification scheme lists missing or broken teeth under signs or symptoms of DENTITION: Impairment. However, a client may have missing teeth without needing nursing intervention. Therefore, the presence of a single sign or symptom may or may not signify a client problem.

- Do not confuse risk factors with the signs/symptoms of a problem. For example, "first experience with parenting" is a risk factor and not a sign or symptom of PARENTING: Impairment.

- Do not categorize a physical abnormality as a problem if it does not interfere with the client's ability to function or if adequate correction has been made by external devices such as glasses or prostheses.

The following examples of problem lables, modifiers, and signs or symptoms are given in response to various questions which have been asked by nurses having used the scheme. They are listed under the four major domains of the classification scheme. The problem label is capitalized and underscored followed by a colon and the problem modifier where appropriate. Statements

taken from a data base are in quotations and signs or symptoms are shown in underscored lower case letters.

DOMAIN 1. ENVIRONMENTAL

INCOME: Deficit is the inadequacy of income to cover usual living expenses, as well as those incurred by unusual medical or health-related needs. Statements related to this may include "husband fired from job last week" or "Social Security is only source of income." These suggest the sign or symptom, low/no income. This problem, as with all problems in the problem classification scheme, would be identified as a nursing problem only when the community health nurse plans intervention. If a discipline other than nursing is intervening, the problem would be considered as a non-nursing problem.

SANITATION: Deficit is designated as the problem label and modifier when signs or symptoms such as soiled living area, insects/rodents present, inadequate water supply, and inadequate sewage disposal exist. Inadequate/improper food storage/disposal might be noted for this problem. The data base might state, "last night's meal on the kitchen table during this afternoon's visit." The sign or symptom, foul odor, could be reflected by "dog excreta inside home," or "soiled diapers stored in open box and have terrible odor."

SAFETY HAZARDS has two problem modifiers: Residence and Neighborhood. The former focuses the problem on the environment or living space close to the client, while the latter modifier focuses the problem beyond the immediate environment or living space of the client. If the data base suggests obstructed exits/entries with "refrigerator located in front of back door" or cluttered living space with "eight tires being stored in living room," code the problem SAFETY HAZARDS: Residence. Also, unsafe gas/electrical appliances is a sign or symptom demonstrated by "family has no stove" or "family of six preparing meals on a hot plate." The second modifier, Neighborhood, with the sign or symptom, uncontrolled animals, is applicable if the record reflects, "mother complains of pack of dogs roaming neighborhood," or "eight unleashed dogs visible from Brown's front yard."

DOMAIN 2. PSYCHOSOCIAL

The problem label and modifier, COMMUNICATION WITH COMMUNITY RESOURCES: Impairment, identifies the signs or symptoms which reflect the client's difficulty, and often frustration, when using complex community service systems. The sign or symptom, unfamiliar with procedures for obtaining services, may be appropriate for statements such as "does not know how to apply for food stamps" or "cannot find babysitter."

ISOLATION: Social relates not only to the elderly but to individuals and families of all ages. Data base information such as "new to community," "single parent," and "relatives remain in Georgia" may suggest the sign or symptom lacks contact with family/friends.

The problem label and modifier, BEHAVIORAL PATTERNS: Impairment, focuses on the client's behavior patterns which are maladaptive. The sign or symptom, demonstrates inappropriate manipulation, may be reflected in the record by "repeatedly asks community health nurse to take her grocery shopping and on other errands."

ROLE CHANGE: Impairment evolves from situations in which the independent member of a unit became dependent, or vice versa. It is also appropriate in other situations such as for clients who assume an additional role before completing the developmental tasks of the current role. Assumes additional role(s) could relate to a teenage girl who becomes a parent. The role of parent is superimposed on the developmental tasks of the teenager.

INTERPERSONAL CONFLICT suggests stress in a significant relationship. For example, the relationship may involve a husband and wife with the sign or symptom, lack shared activities, evidenced by "husband has two jobs" or "wife complains about responsibility for all child care."

GRIEF is not limited to grief associated with death. It may be used to describe grief due to other losses, such as amputation of a limb, divorce, or a mastectomy. While most of the signs or symptoms can be viewed as normal aspects of the grieving process, timing or severity may lead to the problem label. The sign or symptom, exhibits anger, would be recorded when a formerly employed young man, whose foot was amputated 6 months ago, "spends most of the day in a chair complaining about the unfriendly world."

The problem label, CONFUSION, should not be limited to elderly individuals. Factors other than advancing age may cause an individual to exhibit a diminished attention span as noted in the record by the statement, "repeatedly asked the same questions during the visit."

DEPRESSION can range from a relatively mild to a very serious and life-threatening situation. The sign or symptom, attempts suicide, would be noted for an individual who "cut own wrists last week."

The problem label, ANXIETY, may be manifested by a wide range of signs or symptoms. The individual who "expresses apprehension about the success of a proposed kidney transplant," as well as the individual who "wrings his hands and repeatedly changes topic of conversation," are both exhibiting signs or symptoms of anxiety.

HUMAN SEXUALITY: Impairment often describes the developmental state which focuses on attitudes and feelings related to male-female roles. Normal psychosexual maturation includes a healthy self-concept and integration of the overt and covert aspects of sexuality into the individual's life. When the individual's capacity to adjust to the varying levels of tension and strife is demonstrated in relation to sexuality, a nursing problem exists. The sign or symptom, relates difficulty expressing intimacy, may be noted when the data base states, "complains of sexual needs being ignored by spouse."

PARENTING: Impairment is reflected in situations occurring in the expectant family or health teaching to the expanding family. The parent who

"holds newborn at arm's length" or "asks how to support newborn's head" demonstrates the sign or symptom handles child with difficulty. This parent may be learning normal developmental tasks because of the newness of parenthood and because he or she lacks correct and sufficient information about infant care. In contrast, the parent of one or more children may exhibit the sign or symptom, expresses dissatisfaction with parenting role, by the statement, "I can't take another day with these children."

The seriousness of NEGLECT: Child/Adult as well as ABUSE: Child/Adult can be contrasted with PARENTING: Impairment by a review of the signs or symptoms. Note that neither problem label is restricted to children. NEGLECT: Child/Adult is maladaptive behavior which results in deprivation of minimally accepted standards of food, shelter, clothing, and care (17).

ABUSE: Child/Adult is designated in the presence of nonaccidental physical or emotional injury to the child or adult (17). Both, as acutal problems, are based on specific data contained in the signs or symptoms. The nurses identify maladaptive or abnormal caretaking patterns which require change. They must not serve as judge and jury for the caretaker.

GROWTH AND DEVELOPMENTAL LAG is not confined to young children but can apply to any developmental task along the age continuum. The sign or symptom, behavior inappropriate for age, could apply when the record reflects, "four-year-old boy continues to wet bed regularly and eats few solids."

DOMAIN 3. PHYSIOLOGICAL

The problem label and modifier, HEARING: Impairment, includes the sign or symptom abnormal results of hearing screening test (improvides/standardized). Information gathered through standardized or formal methods, such as a whisper test or observations of the community health nurse and family members, is of value in identifying the problem label.

VISION: Impairment would not be included on the nurse's problem list if a newly admitted client had prescription lenses which essentially corrected vision impairment. This problem name would be used for the elementary student whose teacher reports that he "cannot see the blackboard." This information suggests the sign or symptom difficulty/inability to see distant objects.

SPEECH AND LANGUAGE: Impairment focuses on the skills which facilitate verbal communication. The aphasic client often demonstrates several of the signs or symptoms included in the cluster.

The problem label and modifier, DENTITION: Impairment, includes the sign or symptom ill-fitting dentures. An example might be the elderly man whose "diet is limited to soft foods and liquids since getting dentures."

RESPIRATION: Impairment is described by a cluster of signs or symptoms which include rhinnorrhea. A data base may state, "history of frequent URIs," "reports sneezing episode almost every morning," or "teacher complains of excessive nose-blowing during class."

CIRCULATION: Impairment includes a variety of signs or symptoms. The lady who "complains of continuous cold feet" may be exhibiting temperature change in affected area. She may also demonstrate the sign or symptom, edema, when she describes a history of "swollen legs, support hose, and water pills."

NEURO-MUSCULO-SKELETAL FUNCTION: Impairment includes the sign or symptom decreased muscle strength/muscle tightness. This may be noted when the data base reflects "unable to walk without assistance" or "rises from chair with difficulty."

The problem label and modifier, DIGESTIVE FUNCTION: Impairment, results from disease or disturbances which affect the upper gastrointestinal tract. The sign or symptom, indigestion/heart burn, may be appropriate for the man with a medical diagnosis of hiatal hernia who complains of "excessive belching and epigastric pain after large meals."

REPRODUCTIVE FUNCTION may be described by the modifiers, Family Planning, Pregnancy, or Impairment. Dissatisfied with present family planning method is a sign or symptom for the first modifier, Family Planning. The data base may state, "wants to stop taking birth control pills," or "questions effectiveness of foam for birth control." The second modifier, Pregnancy, includes the sign or symptom lifestyle incongruent with physiological changes. An example of this sign or symptom includes "wants to water ski with friends" when client is 8 months pregnant. Using the third modifier, Impairment, the record suggests unusual/abnormal discharge when the 1-week postpartum client "has heavy amount of lochia," "passed two clots about the size of a quarter," and "has bright red lochia since yesterday."

Statements related to BOWEL FUNCTION: Impairment may include "admits to frequent constipation," "drinks prune juice daily," and "takes laxative regularly." These statements imply the sign or symptom constipation.

Incontinence is a sign or symptom for URINARY FUNCTION: Impairment. The record might include comments such as "bed wet at time of dressing change," "fears bladder accident so will not go shopping," or "Foley catheter continues to leak."

The label and modifier, INTEGUMENT: Impairment, may be used with many types of skin problems. The sign or symptom, rash, could be reflected by "diaper area reddened" or "cries when diaper is wet."

PAIN includes the symptom statement of client. This symptom could appear in most clusters of the problem classification scheme. However, pain is such a subjective experience that statement of the client is a primary indicator.

CONSCIOUSNESS: Impairment is a problem label and modifier particularly useful with a terminally ill client. "Rarely shows any response," "does not acknowledge voices of family members," or "offers little resistance to personal care" suggest the sign or symptom lacks response to normal stimuli.

DOMAIN 4. HEALTH BEHAVIORS

NUTRITION: Impairment focuses on food and fluid intake in relation to quality and quantity. "Diet high in starches (e.g., potato chips, sandwiches, popcorn) with minimal inclusion of fruit" suggests lacks/exceeds intake of one or more essential food groups/nutrients.

SLEEP AND REST PATTERNS: Impairment includes the sign or symptom insufficient sleep/rest for age/physical condition. The data base of a young postpartum client may state, "admits being tired from demands of caring for newborn; likes to stay up late watching TV, does not nap during day."

The problem label and modifier, PHYSICAL ACTIVITY: Impairment, may be used for clients of all ages. The sign or symptom, type/amount of exercise inappropriate for age/physical condition, suggests exercise which is either excessive or deficient for the client's status. One cardiac client "spends most of day watching TV" and "barely moves around house according to wife." Another cardiac client "uses steps even when having anginal pain" and "exceeds prescribed activity according to wife."

The cluster of signs or symptoms for PERSONAL HYGIENE: Deficit reflect a lack of generally accepted standards of cleanliness. Dirty clothing may be noted on the record with statements as "wearing same clothes as was last week" or "clothing is covered with dirt."

SUBSTANCE: Misuse includes the sign or symptom abuses nonprescription drugs. This sign or symptom is suggested by "history of short periods of employment and of being fired from many jobs," "has strong odor of alcohol," and "10 empty liquor bottles present in apartment."

THERAPEUTIC REGIME NONCOMPLIANCE includes the modifiers Medical/Dental Supervision, Prescribed Treatment Plan, Prescribed Medications, and Prescribed Therapeutic Diet. Lacks consistent sources of medical/dental care is a sign or symptom for the first modifier, Medical/Dental Supervision. The data base may state, "Jane has been seen at UNMC, Creighton, and Clark Street Child Health Clinics during last year." The second modifier, Prescribed Treatment Plan, includes the sign or symptom fails to obtain needed equipment. An example of this sign or symptom includes, "still has no leg braces for Bill, although welfare worker has given approval and requisition." Using the third modifier, Prescribed Medications, the record suggests deviates from prescribed dosage when the cardiac client "admits forgetting to take medications occasionally." The fourth modifier, Prescribed Diet, includes the sign or symptom does not adhere to diet as prescribed. The record may state, "diary of intake kept by Mrs. Jones reflects daily intake of 2,000 calories rather than 1,200 calories."

TECHNICAL PROCEDURE: Deficit is the last problem name of the classification scheme. It involves the client's ability to perform a procedure or treatment such as an insulin injection or urinary catheter irrigation. The client or another person may be able to perform the procedure or treatment after adequate instructions are provided by the community health nurses and necessary equipment is acquired.

E. HOW TO PREPARE THE PROBLEM LIST

The problem list can be recorded on any form designed for listing client problems in the terms and codes of the classification scheme. On the form, the nurse records from the data base the problems that have been identified and validated for an individual client or family unit.

The form may include columns for listing:

- date the nurse assesses each problem,
- code number of each problem,
- problem label and modifier with signs or symptoms,
- code to indicate whether problem is actual (AP) or potential (PP),
- date each problem is resolved.

The form presented in this manual has been used by the Omaha Visiting Nurse Association. The detailed instructions which follow refer to this form but can be adapted for similar forms used by other agencies.

F. INSTRUCTIONS FOR COMPLETING FORM

With the data base, the classification scheme (see Part I-H for codes), and a problem list form at hand:

1. Enter, at the top of the form, the identification of the client and/or family or other identifying data.

2. Identify each problem in the data base by domain, problem label, problem modifier (if any), and sign or symptom as specified in the classification scheme. Sign or symptom may be individualized.

3. For each problem, enter on the problem list form the date it was assessed (left column), the problem label and modifier, followed by the signs or symptoms (in the column headed "Problem Name/Diagnoses").

4. Enter in the column headed "Problem Number" the numeric code specified in the scheme for that particular problem.

5. Record in the next to last column, "Problem Code":
   AP (actual problem) if it is an existing health problem of an individual or family which requires secondary and tertiary measures of nursing intervention; or
   PP (potential problem) if it is a health pattern, practice, or behavior of an individual or a family which may preclude optimal health and which requires primary measures of nursing intervention.

6. Enter in the last column, "Date Resolved," the date on which the specified actual or potential health problem was resolved.

G. PRACTICE EXAMPLES

Identify, list, and code problems from the example data bases offered in Part II, figures 3 and 5 (figures 3-6 follow this section). Then, compare these problem lists with the sample lists, figures 4 and 6. There should be approximately 90 percent agreement. Refer to sections E and F of Part II when it is necessary.

Figure 3. Data Base, example 1

DATA BASE

Date Initial Appraisal: 6/1/78
Completed: 6/3/78
Date for Reappraisal: 1/3/79

Family Name: Johnson

Household No.: 3268

Page No.: 1

SOURCE OF REFERRAL AND RELATED INFORMATION: Referral received from client's niece, Mary Brown, on 5/31/78. Client hospitalized for congestive heart failure and now home. Niece requesting services for evaluation and personal care assistance. Client agreeable to referral. Client is an 83-year-old white female who appears her stated age. She is a widow and lives alone. On initial contact she was pleasant and receptive.

ENVIRONMENTAL: Lives in an older, stable residential neighborhood. Stores and health care services not available within walking distance. Client's physical condition precludes the use of public transportation but she is able to rely on family and friends for transportation. Client owns her own home and has lived in it for 20 years. The house is adequately furnished and clean. No safety hazards noted. Income is $288.50/month from Social Security and husband's pension. Has private insurance and Medicare. States income is adequate to meet her needs. She and her husband owned a grocery store for many years.

ASSESSMENT: Environmental resources are adequate to meet client's needs and pose no threat to her health.

PSYCHOSOCIAL: Client is the youngest of 11 children, none of whom are still living. Husband deceased since 1972. Had no children. Client's niece, Mary Brown, lives nearby and assists her aunt with grocery shopping and transportation. Has numerous friends who visit often and assist her as needed. Client has lived alone since her husband's death and prefers to remain in her own home as long as possible. Is a member of the Catholic church and attends when she has transportation. Spends her leisure time reading and occasionally watches T.V. game shows. Use to enjoy gardening, but is unable to get around well enough to garden now. Spoke freely of the inevitability of her own death and of the plans she has made for her funeral, will, etc.

ASSESSMENT: Client appears to be mastering the developmental tasks of aging. Has a well developed support system. Maintaining her independence is a high priority.

PHYSIOLOGICAL: All systems assessed with significant findings as follow: Speech and language: rapid speech pattern, comprehension good. Able to express self well. Sensorium: Complains of blurring vision with tearing of approximately 4 months duration. Does not interfere with reading. Able to hear normal speech. States she is occasionally dizzy - usually in the a.m. Insight good, as is long and short term memory. Locomotion - activity: able to ambulate within her home with a slow, unsteady gait. Steadies herself by holding onto furniture. Requires assistance to leave home due to weakness, unsteady gait and fear of falling. Admits to tiring easily. Complains of arthritic pain and joint stiffness in shoulders, hips, and

Figure 3. Data Base, example 1--continued

DATA BASE

Date Initial Appraisal: 6/1/78
Completed: 6/3/78
Date for Reappraisal: 1/3/79

Family Name: Johnson

Household No.: 3268

knees. Decreased ROM of all extremities. Respiratory - circulatory: BP 150/80 (L sitting) and 148/76 (Rt sitting). Apical heart rate 80 and regular. Lungs clear to auscultation. Some SOB noted on ambulation. Moderate non-pitting edema present in feet and ankles bilaterally. Pedal pulses faint but palpable. Temperature and color of feet normal. Has prescriptions for Dyazide, Lanoxin, Aldomet, and Tylenol in home. Elimination: denies urinary elimination problems. Admits to frequent constipation for which she takes MOM usually with good results.

ASSESSMENT: Has significant health deviations requiring nursing evaluation on an on-going basis.

HEALTH BEHAVIORS: Nutrition: Ht. 5'4", wt. 97 lbs. States she has always been thin. Eats two meals/day usually. Limits constipating foods as well as high sodium foods. Able to prepare own meals with food purchased by family or friends. Gets minimal exercise due to difficulty with ambulation. Denies difficulty sleeping. Takes a sponge bath due to inability to get in and out of the tub unassisted. No safety devices present in BR. Occasionally takes a tub bath when niece is available to provide assistance. Is agreeable to VNA help with personal care. Sees her MD on a routine basis. Knows how to call 911 in case of emergency and also could rely on niece or friends. Unable to tell PHN dosage or side effects of meds. Unable to identify which medication prescribed for heart, etc. Admits she occasionally forgets to take meds. Expresses interest in having eyes examined but doesn't know who (which MD) she should see.

ASSESSMENT: Requires assistance with personal hygiene due to physical limitations. Lacks understanding of medications and needs to develop a system for taking them accurately.

PAST HEALTH HISTORY: Husband died in 1972 of lung cancer. Mother had severe arthritis. Father deceased at age 65 of coronary artery disease. Two brothers and one sister also deceased of coronary artery disease. Client has diverticulitis diagnosed in 1962, arthritis of long standing and a history of "lungs filling with water."

ASSESSMENT: Significant problems of diverticulitis, arthritis, and CHF. Significant family history of heart disease.

SIGNIFICANT PLANNING FACTORS: 1. good support system; 2. strong desire to maintain present independent life-style; 3. receptivity to VNA services for care, teaching, and evaluation.

Figure 4. Problem List, example 1

PROBLEM LIST

Family Name: Johnson

Household No.: Page No.:

DATE NOTED	PROBLEM NUMBER	PROBLEM NAME/DIAGNOSIS (Descriptors Optional)	PROB. CODE *	DATE RESOLVED
6/1/78	2.011	Communication with community resources:impairment .01 unfamiliar with procedures for obtaining service (vision care)	AP	
6/1/78	3.021	Vision: impairment .06 tearing/blurring	AP	
6/1/78	3.051	Respiration: Impairment .01 abnormal breath pattern (S.O.B.)	PP	
6/1/78	3.061	Circulation: impairment .01 edema .03 decreased pulses .07 syncopal episodes	AP	
6/1/78	3.071	Neuro-musculo-skeletal function: impairment .01 limited ROM .03 gait disturbance .04 decreased muscle strength/muscle tightness .05 inability to manage ADLs	AP	
6/1/78	3.101	Bowel function: impairment .02 constipation	AP	
6/1/78	3.131	Pain: .01 statement of client	AP	
6/1/78	4.011	Nutrition: impairment .01 wt. 10% less than average	AP	
6/1/78	4.063	Therapeutic regime noncompliance: prescribed medications. .01 deviates from prescribed dosage .02 lacks system for taking medication	AP	

* PROBLEM CODE
AP - Actual Problem
PP - Potential Problem

Figure 5. Data Base, example 2

DATA BASE

Date Initial Appraisal: 5/2/79
Completed: 5/17/79
Date for Reappraisal: 1/80

Family Name: Green

Household No.: 4385

Page No.: 1

SOURCE OF REFERRAL AND RELATED INFORMATION: Referral from the hospital received 4/26/79. Client delivered a male infant on 4/22/79. No past contacts with VNA. Is receptive to referral. Client is a 16 year old single white female. She was quietly receptive on initial contact. She is living with her mother who was present and participated actively in the first visit.

ENVIRONMENTAL: Family lives in a low middle class residential neighborhood. Neighborhood grocery store and health clinic located within two blocks from the home. The family rents a two story frame home in good repair. Furnishings sparse but adequate. Living room cluttered with clothing, dirty diapers and dirty dishes. Roaches noted in kitchen. Income is from mother's Social Security disability. Client has applied for ADC. Family states that income will be adequate to meet their needs.

ASSESSMENT: Environment is adequate with the exception of poor sanitation within the home.

PSYCHOSOCIAL: Household consists of client and her mother. Mother is the head of the household and is the primary decision maker for the family. Client is one of three children. An older sister and brother live outside the home but are frequent visitors. Client says her sister has been helpful to her as she has children and therefore is experienced in child care. Client has not maintained contact with the father of her child by her choice. Client attended high school (10th grade) prior to her pregnancy. Expresses the desire to finish high school but is unaware of community programs for which she would be eligible. Family are active members of the Baptist church. Both client and mother sing in the choir and attend church regularly. Client has her own room with a crib for the baby in the room with her. Leisure activities consist of church-related activities and T.V. Client and her mother spoke of client's girlfriends with whom she enjoys spending time both in and out of the home. Client is an adolescent in the developmental stage of establishing her own identity. As a new mother she is also in the beginning parent stage. States her mother has been very supportive and that they are coping well with the additional responsibility of the new baby.

ASSESSMENT: Support system appears to be fairly well developed for this client. The addition of a baby to this family will require a significant adjustment in client's life-style. Potential exists for conflict between adolescent and parent roles and will require ongoing evaluation.

PHYSIOLOGICAL: Family as a whole is in good health with no significant health deviations. Client - health status assessed with significant

Figure 5. Data Base, example 2--continued

DATA BASE

Date Initial Appraisal: 5/2/79
Completed: 5/17/79
Date for Reappraisal: 1/80

Family Name: Green

Household No.: 4385

Page No.: 2

information as follows: Respiratory-circulatory: BP 120/56 (L sitting) HR 72 regular. Denies edema during pregnancy and none noted now. Reproductive function: had uncomplicated labor lasting approximately 10 hours. Delivery was normal with epidural anesthetic and midline episiotomy. Normal post partum course. Fundus 3-4 fingers below umbilicus. Moderate amount lochia. Having mild discomfort from episiotomy relieved by sitz baths. Breasts non-tender. Does breast self-exam regularly. Began birth control pills on day of hospital dismissal. Denies side effects. Baby - Infant assessment with significant findings as follows: rather limp infant. All reflexes present. Strong cry. Sucking reflex observed to be weak. Birth wt. 8#. Legs appear slightly thin. Able to elicit placing reflex, but slow to respond. On Similac formula. Taking 2-4 oz. every 2-3 hours by mother's report. Cord off and well healed. Circumcision healed. Apgars were 8 and 8. Mother unaware of any problems either during or after birth.

ASSESSMENT: Client in essentially good health. Infant development will require close observation as he appears to be a rather placid baby with reflexes decreased although present.

HEALTH BEHAVIORS: Nutrition: Ht. 5'7", wt. 167 lbs. Expresses desire to lose weight. Eats two meals/day preferring to skip breakfast. Doesn't like milk; liquid intake consists primarily of Coke. Diet high in starches (e.g., potato chips, sandwiches, popcorn, etc.) with minimal inclusion of fruit. Does like greens and eats these daily. Client admits to being tired from demands of caring for newborn. Likes to stay up late watching T.V. and doesn't nap during the day. Infant on a fairly regular schedule waking every 2-3 hours for feeding. Hygiene good for all family members. Both client and infant have appointments to return to clinic for medical follow-up. Client admits to having minimal knowledge of child care and is relying on mother and sister for information although she is assuming total child care at this point. Hasn't given a tub bath yet--expresses fear to do so. Slightly awkward in her handling of infant, but is safe. Maintains good eye contact with infant and speaks of him lovingly. Expresses desire to "be a good mother."

ASSESSMENT: Poor nutritional patterns. Limited skills in mothering techniques but motivated to learn.

PAST HEALTH HISTORY: Client's father deceased at age 43 of lung cancer. Client's mother has a history of cardiac disease due to childhood rheumatic fever. Client has had no significant illnesses.

SIGNIFICANT PLANNING FACTORS: 1. supportive family; 2. low, fixed income; 3. strong religious background.

Figure 6. Problem List, example 2

PROBLEM LIST

Family Name: Green

Household No.: Page No.:

DATE NOTED	PROBLEM NUMBER	PROBLEM NAME/DIAGNOSIS (Descriptors Optional)	PROB. CODE *	DATE RESOLVED
5/2/79		Family:		
5/2/79	1.021	Sanitation: deficit .01 soiled living area .03 insects present	AP	
		Client		
5/2/79	2.011	Communication with community resources: impairment .01 unfamiliar with procedures for obtaining services (education)	AP	
5/2/79	2.041	Role change: impairment .04 assumes additional role	PP	
5/2/79	2.141	Parenting: impairment .02 handles child with difficulty .07 lacks skills for caretaking	AP	
5/2/79	4.011	Nutrition: impairment .01 wt. 10% more than average .02 exceeds standards for daily caloric intake .03 lacks one or more essential food groups	AP	
5/2/79	4.021	Sleep and rest patterns: impairment .06 insufficient sleep/rest	AP	
		Baby		
5/2/79	2.141	Growth and developmental lag: .01 abnormal results of screening test (infant assessment)	AP	

* PROBLEM CODE
AP - Actual Problem
PP - Potential Problem

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APPENDIX A: USERS' GUIDE OUTLINE

To assist staff members in using the classification scheme, certain portions of this manual may be copied and bound for quick reference. The following items might be included:

- Introduction--The purpose and objectives of the classification scheme together with its potential benefits for community health nursing. See Parts I-A and I-B.

- Nursing Staff Instruction--Schedule. Includes topics to be covered and approximate length of time needed for the training period(s). The topics include the advantages and disadvantages of the classification scheme, its relation to the nursing process, the purpose and contents of a defined data base, and the identification of problems by using the classification scheme. Instruction also includes practice in identifying and coding problems from sample data following Parts II-B and II-C.

- Working Materials--Forms and instructions.

  . Sample Data Base and Problem List (figures 3,4,5,6)
  . Completed nursing record used by the agency
  . Blank forms entitled "Problem List" (see sample)
  . The classification scheme without numeric codes (Parts I-D and I-E) and with numeric codes (Parts I-G and I-H)
  . Alphabetic list of problem names in the classification scheme (appendix C)
  . Definitions (appendix B)

- Description of Working Materials.

  . Two sample data bases and corresponding problem lists have been provided by the Visiting Nurse Association of Omaha. The nursing record of the agency should contain a data base similar to the sample shown, i.e., it should include observations of the client and family, health status, environment, psychosocial conditions, and health maintenance patterns.

  . The Problem List is the form used to record the client problems noted in the data base, which are amenable to intervention, using the codes and signs or symptoms designated in the classification scheme.

  . The classification scheme is divided into four major domains containing 38 problem names. The six digit codes identify the major domain (one digit), the problem name (two digits), the modifier (one digit), and the signs or symptoms of the problem (two digits).

- The alphabetic list of problem names is a reference to the problems and includes the first four digits of the code.

- The list of definitions includes terms used in orienting staff to use of the classification scheme as well as terms contained within the scheme.

APPENDIX B: DEFINITION OF TERMS

Abuse: A modifier of a problem label used to indicate any nonaccidental acts or omissions of a parent, legal custodian, or caretaker resulting in physical or emotional injury to another (Kempe and Helfer, 1972).

Actual problem: An existing health problem of an individual or family which requires secondary and teriary measures of intervention (adapted from New York State, Nurse Practice Act, 1971; Mundinger and Jauron, 1975; Gordon, 1976).

Classification scheme: A systematic grouping of client/family health problems encountered in community health agencies.

Data base: A record of systematic observations of a family unit living in a household. It may include not only the nurses' observations but also those of the physician, speech therapist, physical therapist, and other health professionals.

Deficit: A term used as a modifier in problem labels to describe an inadequacy in amount or quality (Woolf, 1975).

Domain: One of four major general areas in which common health problems are grouped.

Family health problem: A health problem which affects the family as a whole or as a group (adapted from Haggerty, 1965; Freeman, 1970, Bloch, 1974; Tinkham and Voorheis, 1977).

Health problem: An actual or potential deficit in the health status of an individual or family that is in need of primary, secondary, or teriary methods of prevention (adapted from Gebbie and Lavin, 1975; Gordon, 1976; Tinkham and Voorheis, 1977).

Impairment: A term used as a modifier in problem labels. It embraces any disturbance of or interference with the normal structure and functioning of the body, including the systems of mental function.

Individual health problem: A health problem which is evidenced in a particular family member or members rather than the family as a whole; such a problem may be resultant of a family problem (adapted from Freeman, 1970; Bircher, 1975; Roy, 1975; Aspinall, 1976).

Lag: A term used in problem labels to describe comparative slowness or retardation (Woolf, 1975).

Modifier: A word or phrase that limits the meaning of a problem label.

Neglect: A modifier of a problem label used to indicate that the client is deprived of minimally accepted standards of food, shelter, medical attention, and other care or proper guardianship (Kempe and Helfer, 1972).

Noncompliance: A modifier used to describe behaviors which do not correspond to clinical prescription and professionally accepted health practices (adapted from Sackeh and Haynes, 1966).

Nursing process: A logical, dynamic, and problem-solving process by which the community health nurse implements systematic, individualized, and comprehensive care with a given client to assist such client attain the highest possible level of functioning and wellness (adapted from Freeman, 1970; Bower, 1972; Mayers, 1972; Corrigan, 1976; Tinkham and Voorheis, 1977).

Potential problem: A health pattern, practice, or behavior of a client and/or the presence of predisposing factors which increase the probability of occurrence of a health problem and may preclude optimal health; such a problem requires primary measures of intervention (adapted from New York State, Nurse Practice Act, 1971; Mundinger and Jauron, 1975; Gordon, 1976).

Prevention--primary: Measures designed to promote optimum health and to provide specific protection against illness, injuries, and disabilities for individuals and families (adapted from Leavell and Clark, 1965).

Prevention--secondary: Measures designed to reduce the deleterious effects of illness, chiefly by shortening the duration of illness through early identification of the problem and effective health care (adapted from Leavell and Clark, 1965).

Prevention--tertiary: Measures aimed at reducing residual defects and disabilities following the course of an illness, chiefly by rehabilitating the individual to the maximum use of remaining capacities (adapted from Leavell and Clark, 1965).

Problem label: A name designated for a health problem. In the classification scheme, problem labels are grouped into four major domains. The label may or may not be limited by modifiers but always includes signs or symptoms.

Problem list: A form for listing the client problems reported in the terms and codes of the classification scheme. It is part of the client record.

Sign: Any evidence of a health problem objectively observed in an individual or family (adapted from Feinstein, 1970; Moidel, 1971; Bircher. 1975; Gebbie and Lavin, 1975; Aspinall, 1976).

Symptom: Any subjective sensation or other observation described by an individual or family (adapted from Feinstein, 1970; Moidel, 1971; Bircher, 1975; Gebbie and Lavin, 1975; Aspinall, 1976).

APPENDIX C: PROBLEM LIST

ABUSE: Child/Adult ..... 2.131 *

ANXIETY 2.091

BEHAVIORAL PATTERN: Impairment 2.031

BOWEL FUNCTION: Impairment 3.101

CIRCULATION: Impairment 3.061

COMMUNICATION WITH COMMUNITY RESOURCES: Impairment 2.011

CONFUSION 2.071

CONSCIOUSNESS: Impairment 3.141

DENTITION: Impairment 3.041

DEPRESSION 2.081

DIGESTIVE FUNCTION: Impairment 3.081

GRIEF 2.061

GROWTH AND DEVELOPMENT LAG 2.141

HEARING: Impairment 3.011

HUMAN SEXUALITY: Impairment 2.101

INCOME: Deficit 1.011

INTEGUMENT: Impairment 3.121

INTERPERSONAL CONFLICT 2.051

ISOLATION: Social 2.021

NEGLECT: Child/Adult 2.121

NEURO-MUSCULO-SKELETAL FUNCTION: Impairment 3.071

NUTRITION: Impairment 4.011

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* Includes domain, problem label and modifier codes. See Part I-G.

PAIN 3.131
PARENTING: Impairment 2.111
PERSONAL HYGIENE: Deficit 4.041
PHYSICAL ACTIVITY: Impairment 4.031
REPRODUCTIVE FUNCTION: Family Planning 3.091
REPRODUCTIVE FUNCTION: Impairment 3.093
REPRODUCTIVE FUNCTION: Pregnancy 3.092
RESPIRATION: Impairment 3.051
ROLE CHANGE: Impairment 2.041
SAFETY HAZARDS: Residence 1.031
SAFETY HAZARDS: Neighborhood 1.032
SANITATION: Deficit 1.021
SLEEP AND REST PATTERNS: Impairment 4.021
SPEECH AND LANGUAGE: Impairment 3.031
SUBSTANCE: Misuse 4.051
TECHNICAL PROCEDURE: Deficit 4.071
THERAPEUTIC REGIME NONCOMPLIANCE: Medical/Dental Supervision 4.061
THERAPEUTIC REGIME NONCOMPLIANCE: Prescribed Medications 4.063
THERAPEUTIC REGIME NONCOMPLIANCE: Prescribed Diet 4.064
THERAPEUTIC REGIME NONCOMPLIANCE: Prescribed Treatment Plan 4.062
URINARY FUNCTION: Impairment 3.111
VISION: Impairment 3.021

APPRENDIX D: TEST PROGRAM

The objectives of the test program were:

- Test the reliability of the structure of the problems which comprise the classification scheme;
- Test the reliability of the classification scheme for community health nursing practice in diverse settings;
- Determine the completeness of the problem labels which comprise the problem classification scheme;
- Determine the usability and usefulness of the problem classification scheme for community health nursing practice in diverse settings;
- Determine the effectiveness of the manual as a tool for implementing the classification scheme;
- Determine the adequacy of the training program and descriptive material in the manual.

A three-phase test was designed to achieve the objectives. Information Management Services, Inc. was responsible for field test design and statistical analysis of the test results. Three community health agencies, chosen to reflect the diverse settings in which community health nurses practice, participated in the test.

The Des Moines, Iowa, Public Health Nursing Association, representative of the combined official and voluntary health agency, was the setting for Phase I of the test. Phase I was characterized by orientation provided by the VNA of Omaha project staff. The material in the manual provided the basis for the orientation.

Phase II of the test was conducted at the Division of Public Health Nursing of the State of Delaware, Department of Health and Social Services. This organization is representative of an official community health agency. Using material in the manual, administrative staff of the Delaware agency conducted the portions of the orientation related to the nursing process and the data collection procedure. Project staff from the VNA of Omaha presented the portions of orientation related to the problem classification scheme.

The Dallas Visiting Nurse Association, representative of the voluntary public health agency, was the site for Phase III of the test. Staff of the Dallas agency used the manual to present the entire orientation to their staff. A member of the project staff from the VNA of Omaha was present to respond to questions.

PHASE I: DES MOINES TEST

Procedures

Following orientation at Des Moines, each nurse responded to requests for reports of home visits. The nurse assessed the family unit and individual family members using the data base. Nursing problems were recorded on the problem lists with the accompanying signs or symptoms. A copy of each data base and problem list was submitted to Information Management Services, Inc. Copies of the data bases were also submitted to the VNA of Omaha. Project staff at the VNA of Omaha completed problem lists using these same data bases. These problem lists were then statistically compared by Information Management Services, Inc. with the problem lists prepared by the Des Moines staff.

Results

The Des Moines staff identified 487 problems for the 93 clients admitted to service during the study period. Omaha staff identified 453 problems from the same data bases.

One might anticipate some differences in the lists of problems identified for several reasons. The Des Moines staff did not have the familiarity with the problem classification scheme which the Omaha project staff had obtained through its development and testing over the previous years. However, the Des Moines staff had the opportunity to see the clients while the Omaha staff worked only from the clients' data bases. Also, most of the problems identified by Des Moines were in the area of "Current Health Status and Deviations." Omaha did not have access to the records where data relative to problems in other categories might be found. A third factor could be the experience of the Omaha staff in selecting only those problems which the staff nurse felt she could effectively resolve.

Evaluation

The first statistic computed assumed that the problem lists developed by the Omaha project staff were standards. The formula selected to compute this comparison was:

$$P(1) = \frac{\text{number of problems both Omaha and Des Moines observed}}{\text{number observed by Omaha}}$$

$$P(1) = \frac{368}{453} = .81 \text{ or } 81\%$$

The second statistic computed assumed that the Des Moines problem lists were standards.

$$P(2) = \frac{\text{number of problems both Omaha and Des Moines observed}}{\text{number observed by Des Moines}}$$

$$P(2) = \frac{368}{487} = .75 \text{ or } 75\%$$

The final statistic, an average of P(1) and P(2), assumed that neither agency was standard. Calculate $P(3) = \frac{P(1) + P(2)}{2} = .78$ or 78%.

The preceding statistics focus on those problems which were identified. The fact that a problem on the list was not chosen by one or either observer also has some meaning. This was accounted for in the equation:

$$P = \frac{\text{number of problems both Omaha and Des Moines observed} + k\ (\text{number neither observed})}{\text{number of problems Omaha observed} + k\ (\text{number of problems Omaha did not observe})}$$

If factor P is calculated for each client and a value of K = .1 is used, the average of these measures is 92 percent.

As a result of Phase I, the manual was revised. The revisions were primarily in the area of scheduling. In addition, a number of examples were added to clarify portions of the problem classification scheme.

Summary discussions revealed that the Des Moines staff had no difficulty using the classification scheme. The Des Moines Public Health Agency decided to continue to use the scheme after completion of the test.

PHASE II: DELAWARE TEST

Procedures

The same data collection procedure used in Phase I of the test was used in Phase II. A copy of each data base and problem list was submitted to Information Management Services, Inc. A copy of 31 of these data bases was also submitted to the VNA of Omaha. Project staff at the VNA of Omaha completed problem lists for these data bases. These problem lists were then statistically compared by Information Management Services, Inc. with the problem lists prepared by the Delaware staff.

Results

A total of 91 clients were admitted to service during the study period. The Delaware staff identified a total of 572 problem labels.

Thirty-one bases were sent to Omaha staff for the compilation of problem lists which were compared to the Delaware prepared lists. A total of 115 problems were identified by the Omaha project staff as compared with 129 problems identified by the Delaware staff.

With the Omaha problem lists as standard, the following statistical comparison was made:

$$P(1) = \frac{\text{number of problems both Omaha and Delaware observed}}{\text{number of problems observed by Omaha}}$$

$$P(1) = \frac{80}{115} = 70\%.$$

With the Delaware problem lists as standard, the statistical comparison was:

$$P(2) = \frac{\text{number of problems both Omaha and Delaware observed}}{\text{number of problems observed by Delaware}}$$

$$P(2) = \frac{80}{129} = 62\%.$$

If neither group was used as standard, the statistical comparison was:

$$P(3) = \frac{P(1) + P(2)}{2} = 66\%$$

A percentage agreement which considered those problems included, as well as those omitted, was calculated for each client using the formula:

$$P = \frac{\text{number of problems both Omaha and Delaware observed} + k\ (\text{number neither observed})}{\text{number of problems Omaha observed} + k\ (\text{number of problems Omaha did not observe})}$$

$P = 83\%$ for $k = .1$.

On the basis of 31 client records with a 95-percent confidence interval, the mean of the entire sample of 91 client records was 78.7 percent to 86.9 percent.

The difference between the results of the Des Moines and Delaware testing could have resulted in part from the Delaware data bases, which were more dissimilar as compared with the Omaha and Des Moines data bases.

The Delaware State Department of Health and Social Services elected to have the problem classification scheme optional for their nurses after the field testing.

PHASE III: DALLAS TEST

Procedures

The procedure used in Phase II of the test was used in Phase III, with the Omaha project staff again completing problem lists for 31 of the clients included in the study.

Results

A total of 411 problems were identified for 86 clients admitted to service during the study period.

Thirty-one data bases were sent to the project staff in Omaha, who then generated problem lists for comparison with the Dallas-prepared lists. A total of 128 problems were identified by the Omaha project staff as contrasted with 122 problems identified by the Dallas staff from the same data bases.

If the problem lists prepared by the Omaha project staff are used as standards, the statistic was computed as:

$$P(1) = \frac{\text{number of problems both Omaha and Dallas observed}}{\text{number of problems observed by Omaha}}$$

$$P(1) = \frac{82}{128} = 64\%.$$

With the Dallas problem lists as standard, the following statistic was computed:

$$P(2) = \frac{\text{number of problems both Omaha and Dallas observed}}{\text{number of problems observed by Dallas}}$$

$$P(2) = \frac{82}{122} = 67\%.$$

The average of P(1) and P(2), which assumes that neither group was standard, was:

$$P(3) = \frac{P(1) + P(2)}{2} = \frac{64 + 67}{2} = 66\%.$$

A percentage agreement which considered those problems included, as well as those omitted, was calculated for each client with the following formula:

$$P = \frac{\text{number of problems both Omaha and Dallas observed} + k\ (\text{number neither observed})}{\text{number of problems Omaha observed} + k\ (\text{number of problems Omaha did not observe})}$$

$P = 79\%$, $k = .1$.

On the basis of this sample, with a 95-percent confidence interval, the mean of the entire sample of 86 clients was 74 percent to 83 percent.

The difference in format and content of data bases used at the Omaha and Dallas agencies may have contributed to the lower agreement as compared with the Des Moines agency.

Following the field testing, the Dallas agency elected to continue to use the problem classification scheme.

Summary Results of the Initial Test Program

Combination of the measures of comparison, which include both those problems observed as well as those problems not observed, revealed an average of 81-percent agreement across all test agencies.

REVISION AND RETEST OF THE CLASSIFICATION SCHEME

At the completion of the field testing, the Advisory Committee of the research project met with the VNA of Omaha project staff and representatives of IMS, Inc. to refine the classification scheme. This refinement was based upon data obtained during the field testing and information obtained from the

staff at the VNA of Omaha who had used the problem classification scheme for over 2 years.

The criteria used to refine the problem classification scheme were:

- The classification scheme will be usable and workable;
- Information will be relevant to community health nurses;
- Signs or symptoms will be comprehensive;
- The classification scheme will be capable of being computerized; and
- Problem labels and their signs or symptoms will be clearly defined.

Refinements were made which fell into five groupings:

- The four categories of the classification scheme were changed to four domains that better defined areas in which community health nurses assess data to identify problems;
- Risk factors and laboratory tests included with problem labels in the original scheme were deleted;
- Some problem labels were combined;
- Some problem labels were added; and
- Some problem labels were deleted.

It was determined that the refinements made to strengthen the problem classification scheme were also significant enough to warrant retesting of the scheme. Staff at the three original test agencies as well as staff at the VNA of Omaha participated in the retest.

Procedure

Each test agency staff completed a record review of a total of 31 open records. The revised problem classification scheme was used to complete a problem list for each record. The nurses were encouraged to include any signs or symptoms or problems that were not included in the revised problem classification scheme.

The problem lists and data bases were sent to Information Management Systems, Inc. Copies of the data bases were also sent to the VNA of Omaha. Project staff completed problem lists for these data bases, using the revised problem classification scheme. These problem lists were sent to Information Management Services, Inc., for statistical comparison with lists prepared by test agency staff.

Results

Des Moines

$$P(1) = \frac{\text{number of problems both Omaha and Des Moines observed}}{\text{number of problems observed by OVNA}} = \frac{142}{164}$$

$$P(1) = 87\%$$

$$P(2) = \frac{\text{number of problems both Omaha and Des Moines observed}}{\text{number of problems observed}} = \frac{142}{203}$$

$$P(2) = 70\%$$

$$P(3) = \frac{P(1) + P(2)}{2} = \frac{86.6 + 70.0}{2} = 78\%$$

$$P = \frac{\text{number of problems both Omaha and Des Moines observed} + k\ (\text{number neither observed})}{\text{number of problems Omaha observed} + k\ (\text{number of problems Omaha did not observe})}$$

$= 90\%$, $k = .1$.

Delaware

$$P(1) = \frac{\text{number of problems both Omaha and Delaware observed}}{\text{number of problems Omaha observed}}$$

$$P(1) = \frac{82}{132} = 62\%$$

$$P(2) = \frac{\text{number of problems both Omaha and Delaware observed}}{\text{number of problems Delaware observed}}$$

$$P(2) = \frac{82}{102} = 80\%$$

$$P(3) = \frac{P(1) + P(2)}{2} = \frac{59.0 + 80.4}{2} = 71\%$$

$$P = \frac{\text{number of problems both Omaha and Delaware observed} + k\ (\text{number neither observed})}{\text{number of problems Omaha observed} + k\ (\text{Omaha did not observe})}$$

$= 73\%$, $k = .1$.

Dallas

$$P(1) = \frac{\text{number of problems both Omaha and Dallas observed}}{\text{number of problems Omaha observed}}$$

$$P(1) = \frac{119}{180} = 66\%$$

$$P(2) = \frac{\text{number of problems both Omaha and Dallas observed}}{\text{number of problems Dallas observed}}$$

$$P(2) = \frac{119}{135} = 88\%$$

$$P(3) = \frac{P(1) + P(2)}{2} = \frac{66 + 88}{2} = 77\%$$

$$P = \frac{\text{number of problems both Omaha and Dallas observed} + k\ (\text{number neither observed})}{\text{number of problems Omaha observed} + k\ (\text{number Omaha did not observe})}$$

$= 77\%$, $k = .1$.

Summary of Retest

The table below shows the results of the two test programs in terms of the percents of agreements obtained by comparing the problem lists prepared by the test agencies with those prepared by the VNA of Omaha from the same data bases.

	P(1) Omaha standard (Percent)	P(2) Test agency standard (Percent)	P(3) Average (Percent)	P Individual client average (Percent)
Des Moines				
Initial test	81	75	78	92
Retest	87	70	78	90
Delaware				
Initial test	70	62	66	83
Retest	62	80	71	73
Dallas				
Initial test	64	67	66	79
Retest	66	88	77	77

The consistency of the average percentage of agreement reflected by P(3) and P over the initial test and retest phases of the program indicate the reliability and repeatability in use of the classification scheme in successive tests within agencies. The high percentage of agreement between the problem lists prepared by the Des Moines staff and the Omaha staff may be attributable to the similarity of the data bases used by the Des Moines and the Omaha agencies.

Based upon the results of the retesting, it was recommended that the revised classification scheme be prepared for publication.

APPENDIX E: LITERATURE REVIEW

A classification of nursing diagnoses or nursing problems is a concept which, in recent years, has been discussed with ever increasing frequency. Gebbie and Lavin (1975) described the rationale for practice, research, and education. Roy (1975) suggested that a classification system would clarify the nature of the phenomena with which nursing is concerned; Brown (1975) suggested it would provide uniform statistical data for describing the prevalence and distribution of nursing problems.

This literature review is presented in four parts to conform to the major tasks of the classification scheme project. The first section is concerned with nursing diagnoses or nursing problems. The second section considers the development of classification systems. The computerization of such systems is discussed in the third section. The final section describes existing classifications in the health fields.

Nursing Diagnosis

Nursing diagnosis is a term which has appeared in the literature for several decades and is defined in a number of ways (Chambers, 1962; Durand and Prince, 1966; Fry, 1953; Gebbie and Lavin, 1975; Hornung, 1956; Johnson, 1959; Komorita, 1963, Mundinger and Jauron, 1975; Rothberg, 1967). There is general agreement that nursing diagnosis is a judgment by the nurse of the patient's problems inferred from the collected data. Such patient problems are further defined as those which require nursing care or are amenable to nursing intervention which is available in the present or potential scope of nursing (Durand and Prince, 1966; Gebbie and Lavin, 1974; Mundinger and Jauron, 1975; Rothberg, 1967). There is consensus that a nursing diagnosis is based on scientific knowledge (Bonney and Rothberg, 1963) and represents a pattern of behavioral responses of a patient (Durand and Prince, 1966). Alternative terminology used to signify the concept of nursing diagnosis includes nursing problem (Bloch, 1974), patient problem (Bower, 1972; Mayers, 1972), and assessment (Carrieri and Sitzman, 1971).

Durand and Prince (1966) describe the differences between medical and nursing diagnoses. The differences arise from the perspective of each discipline and the knowledge necessary for the practice of medicine and nursing. There is consensus that a nursing diagnosis may be distinct from a medical diagnosis, anticipated in certain medical conditions, or may be identical to a medical diagnosis in emergency situations (Durand and Prince, 1966; Gebbie and Lavin, 1973).

The functions of a nursing diagnosis are described by Brown (1975) and include the development of diagnostic-specific nursing interventions and the identification of causality.

The formulation of a nursing diagnosis is generally viewed as the second component of the nursing process (Gebbie and Lavin, 1975; Yura and Walsh, 1973). Alternative terminology for this phase of the process includes problem identification (Bower, 1972) and problem definition (Bloch, 1974). The nursing diagnosis is perceived as the logical end product of an assessment and as an essential precursor to planning and implementing nursing action. The steps of the diagnostic phase of the nursing process are documented by Chambers (1962), Komorita (1963), and Rothberg (1967). Brown (1975) suggests that the steps proposed by Gough (1971) in formulating a psychological diagnosis might be relevant in diagnosing nursing entities. These include: identifying the presenting problem, gathering facts about the problem, formulating a hypothesis to explain the problem, checking the implications of the hypothesis or making new observations, and confirming or disproving the diagnosis.

Both inductive and deductive approaches to developing nursing diagnoses were used by participants at the First National Conference on Classification of Nursing Diagnoses. Those who favored the inductive approach suggested that diagnoses be formulated after systematically observing specific signs and symptoms in patients with the same condition. Advocates of the deductive approach favored statement of diagnoses in terms of a chosen conceptual framework (Gebbie and Lavin, 1975).

Bonney and Rothberg (1963) stress the importance of valid and reliable measuring devices in formulating a nursing diagnosis. A number of assessment tools are described by Carey (1970, Gauger et al. (1964), Gosnell (1973), Gurel et al. (1972), McCain (1965). Brown (1975) suggests that nurses should have knowledge of the level of data each instrument yields, the norms in criterion variables, and the direction of change for each variable.

Several approaches for clinical testing and validation of nursing diagnoses are identified by Gebbie and Lavin (1973, 1975). A study designed to begin work on validation of nursing diagnoses accepted by the Second National Conference on Classification of Nursing Diagnoses is planned by Dr. Mary Castles at Wayne State University.

Clinical situations in which nursing diagnoses were utilized are described by Bonney and Rothberg (1963), Durand and Prince (1966), Gebbie and Lavin (1973). Work on family nursing diagnosis is almost nonexistent.

The major problem relating to nursing diagnoses is the use of the term. Proponents of the term argue that it is appropriate and accurate (Gebbie and Lavin, 1974); Rothberg, 1967; Roy, 1975). Those who oppose it contend that it has a problemistic impact (Converse, 1973; Renner, 1973). As indicated earlier, alternative terms congruent with the conceptualization of nursing diagnosis are utilized.

Development of Classification Systems

The development of a classification system is described in a number of ways (Bloom et al., 1956; Feinstein, 1967; Krathwohl et al., 1964; Richardson, 1940; Roy, 1975; Vickery, 1958; Wells, 1973). There is consensus that a

classification is based on an ordering principle and adheres to the rules of categorization.

Hangartner (1973) and Roy (1975) delineate the functions of the ordering principle. Roy states:

> The organizing principle that is selected determines the rules for eligibility into the system and the position the individual unit or element will hold in the system (Roy, 1975:91).

Feinstein (1967) and Gebbie and Lavin (1974) suggest that the hierarchial order for a diagnostic classification scheme should signify the frequency of occurrence of diagnoses, their importance for patient welfare, and the interrelationships of groupings. The criteria for the selection of the ordering principle are specified by Hangartner (1973).

The rules for categorization are described by Feinstein (1967), Hangartner (1970), Roy (1975), and Vickery (1958). There is general agreement that the category sets must be: relevant to the purposes of the system, comprehensive and exhaustive, workable and communicable, open, compatible with related systems, and capable of computerization.

The need for clearly defined and mutually exclusive categories throughout a classification is emphasized by Gordon (1973), Hangartner (1973), and Vickery (1958). The use of signs and symptoms for defining characteristics in diagnostic classifications is stressed by Feinstein (1967), Gebbie and Lavin (1974), and Reichenfeld (1971). Gebbie and Lavin (1975) point out the differences between defining characteristics and assessment parameters.

Several other concepts are viewed as significant in describing a diagnostic category. These concepts include etiology (Feinstein, 1967; Gebbie and Lavin, 1975; Gough, 1971), duration (Feinstein, 1967; Gebbie and Lavin, 1975; Moore, 1970), intensity (Brown, 1975; Moore, 1970), and episode of care (Brown, 1975; Solon et al., 1967).

The process of developing a classification system for nursing is described by Brown (1975), Gebbie and Lavin (1974), and Roy (1975). They agree that such a classification is developed through the sequential steps of formulating nursing diagnoses, accepting a consistent nomenclature, grouping diagnoses into defined categories, and substituting codes for the terminology. Roy (1975) points out that deductive, inductive, or combined methodologies can be applied to the process.

Brown (1975) delineates the criteria for evaluating a classification system for nursing. Hangartner (1973) poses a series of questions for judging a diagnostic classification. A high degree of concurrence between the criteria proposed by Brown (1975) and the questions posed by Hangartner (1973) is observed. Similar standards for evaluating a diagnostic classification for medicine is suggested by Maxwell (1970) and Reinchenfeld (1971).

Approaches to validating a classification system are identified by Bloom et al. (1956), Hamilton (1968), Hangartner (1973), Krathwohl et al. (1964), and Vickery (1958). Bloom et al. (1956) and Vickery (1958) differentiate between the validation of a classification system and a taxonomy. Others hold that a classification may be tested on the basis of its agreement with empirical evidence and the correspondence of its order to that of the real world (Hangartner, 1973; Krathwohl et al., 1964).

The implementation of problem-oriented systems of patient care in hospitals and community health agencies facilitates the development of a classification scheme for nursing. Clinical situations in which such systems are utilized are described by Bonkowsky (1972), National League for Nursing (1974), and Schell and Campbell (1972).

Several proposed diagnostic schemes which may be useful for the development of a nursing classification are described. Gough (1971) delineates three levels of diagnoses and specifies the therapeutic goal for each level. Schwartz (1967) develops a framework of five stages of health and disease for categorizing patient health problems. Moore (1970) classifies morbidity data according to conditions of morbidity, service required for treatment, and the setting of medical care. Solon et al. (1967) delineates episodes of care based upon a patient's medical problem, time intervals between care, and the nature of medical management.

Computerization of Classification Systems

The capability of computers to implement a classification system for nursing is considered by Brown (1975), Gebbie and Lavin (1975), and Hangartner (1973). They agree that computers can be used to store and retrieve nursing data, report nursing diagnoses and problems, and correlate nursing diagnoses with other information. Hangartner (1973) suggests that a nursing classification should be designed in a way that facilitates computerization.

Several projects relating to the computer potential of classifications are described in the literature. Rutherford (1970) presents a method whereby the combinations of specificity of retrieval and grouping of related diseases is managed by computer coordination of a nomenclature and statistical classification. Wells (1973) describes the computer features of the Standard Nomenclature of Medicine relative to cross-retrieval of combinations of medical information.

Computerized systems in hospitals and community health agencies and basic considerations in their development are described by Ball (1971), Saba (1974), and Schwartz (1970). Advantages and limitations of electronic data processing of health records are enumerated (Ball, 1971; Feinstein, 1967; Levine, 1974; Hofmann et al., 1968); and computer features of the problem-oriented system are elaborated (Graves, 1971; Goldfinger, 1973; Hurst et al., 1973; Hurst and Walker, 1972; Schmid, 1974; Weed, 1968, 1970). The impact of automation upon nursing is documented by Barker (1971), Cornell and Brush (1971), and Rosenberg and Carriker (1966). Consideration of these concepts and processes may be useful in planning for computerization of a classification of nursing diagnoses.

Current Classification Systems

Diagnostic classifications currently in use are described by Buka (1976), Converse (1973), and Huffman (1972). Gebbie and Lavin (1975) explain that some systems are specific nomenclatures while others are statistical classifications. Several researchers suggest nursing has favored the development of a taxonomy that includes a standard nomenclature and groupings of diagnoses arranged in a hierarchical order (Brown, 1975; Gebbie and Lavin, 1975; Hangartner, 1973; Roy, 1975).

A nomenclature is defined as a systematic compilation of approved terms for describing and recording phenomena (Buka, 1976; Converse, 1973). A medical nomenclature, some researchers agree, is (1) primarily concerned with individual occurrences of diagnoses; (2) provides a designation for any morbid condition which can be specifically described; and (3) is structured to allow for inclusion of new terms as medical science advances (Buka, 1976; Converse, 1973; Gebbie and Lavin, 1975). Due to its specificity, a nomenclature is viewed as unsatisfactory for quantification (Gebbie and Lavin, 1975). Buka (1976) delineates the purposes and particular arrangements of medical nomenclatures. The usefulness of nomenclatures for clinical research and education is pointed out by Buka (1976) and Huffman (1972).

The major medical nomenclatures that are described in the nursing literature include: Standard Nomenclature of Diseases and Operations (Buka, 1976); Huffman, 1972); Systematized Nomenclature of Pathology (Buka, 1976; Converse, 1973); and Systematized Nomenclature of Medicine (Buka, 1976; Converse, 1973; Gebbie and Lavin, 1975; Wells, 1973).

Two additional publications are generally viewed as nomenclatures: Current Medical Information and Terminology and its companion volume, Current Procedural Terminology. Buka (1976) and Gordon (1965) described the first, and Buka (1976) elaborated the second.

A statistical classification is defined as a systematic grouping of phenomena into categories based on shared characteristics or like traits (Buka, 1976; Converse, 1973; Gebbie and Lavin, 1975; Richardson, 1930; Vickery, 1958). There is agreement that a medical classification: (1) employs a limited number of categories encompassing the entire range of abnormal conditions; (2) is capable of expansion or refinement within its existing framework; (3) furnishes quantitative data that answers questions about groups of cases; and (4) may be organized upon the basis of importance or frequency of occurrence of diagnoses (Buka, 1976; Converse, 1973; Gebbie and Lavin, 1975). Buka (1976) delineates the purposes and particular arrangements of statistical classifications in medicine. The usefulness of statistical classifications for administrative and epidemiologic purposes is pointed out by Brown (1975 and Buka (1976).

The major statistical classifications are described by various researchers and include: International Classification of Diseases (Buka, 1976; Huffman, 1972); International Classification of Diseases Adapted (Buka, 1976; Converse, 1973; Huffman, 1972); Hospital International Classification of Diseases Adapted (Buka, 1976; Gebbie and Lavin, 1975); and International Classification

of Health Problems in Primary Care (Buka, 1976). The preceding publication, designed for primary care encounters, may be especially useful to community health nurses in developing a problem classification scheme.

Data sets for compiling information about patients are generally viewed as statistical classifications (Converse, 1973). Data sets that are described include those relating to ambulatory care (Akpon, 1973; Buka, 1976; McFarland and Norman, 1973), inpatient discharge (Converse, 1973), and long-term care (Buka, 1976; Jones, 1974).

A number of problems concerning the major medical classification systems are identified (Bain, 1973; Franks, 1969; Moore, 1970). In general, these criticisms support the point made by Feinstein (1967) that current classifications focus upon disease rather than illness, morphological form instead of clinical form, and clinical inferences but not clinical observations. Feinstein (1967) argues that problems arise from the lack of a medical taxonomy that includes several different aspects of classification.

Current medical classifications are viewed as inappropriate for categorizing the phenomena with which nursing is concerned (Brown, 1975; Gebbie and Lavin, 1975; Roy, 1975). As stated earlier, nursing indicates a preference for a single classification system that will label and order nursing diagnoses (Gebbie and Lavin, 1975; Hangartner, 1973; Roy, 1975). Consideration of the purposes, general characteristics, and particular arrangements of diagnostic schemes in medicine may be useful in developing a classification system for nursing.

APPENDIX F: SELECTED BIBLIOGRAPHY

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